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UTERINE DISPLACEMENTS.*

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The subject of uterine displacements is too comprehensive to be exhaustively treated in the time allotted for this paper. Therefore, we must be brief in our reference to most features of our subject.

The whole subject is predicated upon a knowledge of the normal anatomic supports of the uterus and their several functions. These supports are divided into an upper and lower system. The upper system is composed of the broad ligaments laterally, the utero-sacral ligaments posteriorly, and the round ligaments and vesico-vaginal ligament anteriorly; and, additionally, the vesico-uterine reflexion of peritoneum anteriorly, and the sacro-uterine reflexion, forming Douglas cul-de-sac, posteriorly.

The broad ligaments are formed of an extensive duplicature of peritoneum. They extend across the pelvic cavity, dividing it into an anterior

and posterior portion, and are broadly attached to the lateral walls of the pelvis. They include between their folds the uterus and its adnexa, areolar tissue and plain muscle fiber.

The utero-sacral ligaments are duplicatures of peritoneum, partially enclosing an admixture of areolar tissue with a considerable portion of plain muscle fiber. They are attached posteriorly to the middle of the lateral borders of the anterior surface of the sacrum, and anteriorly to the uterus at the line of junction of the cervix and body. They are continuous supero-externally, with the corresponding broad ligaments, and inferiorly with the peritoneum forming the cul-de-sac. The round ligaments are composed principally of plain muscle fiber histologically corresponding closely to the uterus. They spring from the upper lateral borders of the uterus, a little below and in front of the attachments of the Fallopian tubes. Each one runs outward and forward between the layers of the cor-

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responding broad ligament to the internal abdominal ring, along the inguinal canal, occupying its most dependent portion, through the external abdominal ring, reaching the connective tissue of the labium majus, to which it is attached, considerably reduced in size, having given off many of its fibers in its course through the inguinal canal, which are attached to surrounding structures. This arrangement makes it difficult or impossible to pull the ligament out of the canal, and an attempt to forcibly peel off these structures results in splitting off many fibers from the ligament, materially reducing it in size and strength. Very often these fibers cannot be severed and the ligament released without splitting the whole length of the anterior wall of the inguinal canal. In its course along the inguinal canal the ligament is accompanied by the genital branch of the genito-crural nerve, the anatomical relations being very intimate.

The vesico-vaginal ligament is formed of the anatomically related portions of the bladder and vaginal wall and interposed connective tissue. It thus forms a strong and useful ligament, having indirect anterior attachments to the pubic arch and a posterior attachment to the middle of the anterior surface of the cervix, the bladder layer extending up to the body, and the vaginal layer, exclusive of its mucous membrane, being firmly attached to the uterus at its point of contact.

The lower system of support comprises the levator ani and coccygi muscles, which together form the so-called pelvic diaphragm. The former muscle has its origin from the posterior surface of the body of the pubic bone

close to the median line, from the spine of the ischium and between these two points from the so-called white line, which is a thickening in the pelvic fascia along the line of its cleavage into the rectovesical and anal fascia. From this extensive origin the fibers proceed downward and backward, the most posterior fibers being attached to the lower end of the lateral border of the coccyx, the remaining fibers blending with those of the opposite side along the median line from the coccyx to the rectum, into the wall of the rectum and again along the median line to the so-called perineal body. The fibers of the heaviest part of the muscle are those attached to the rectal wall. Some of the anterior fibers in the male pass beneath the prostate gland and corresponding fibers in the female pass beneath the vagina and blend with those of the opposite side in the median line. These fibers are sometimes described as a separate muscle.

The coccygi complete the pelvic diaphragm; arising from the tip of the spine of the ischium and spreading out to form a fan-shaped muscle, they are inserted into the lower portion of the lateral border of the sacrum and the whole length of the lateral border of the coccyx.

The uterus is suspended by the upper system of supports, the broad ligaments laterally, and the utero-sacral and vesico-vaginal antero-posteriorly, forming a double suspension scheme with the organ occupying the position where these lines of support cross each other. The antero-posterior line of support mentioned is attached to the lower

part of the uterus and offers little resistance to forward or backward displacements, especially backward, since the utero-sacral ligaments are attached higher than the vesico-vaginal. To correct this, and also to keep the uterus in a position to receive support from the lower system, the round ligament being attached high up on its lateral border, serves to keep the fundus forward so that the intra-abdominal pressure is received by the posterior surface of the uterus which effectively aids in preventing backward movement.

The upper system is normally able to withstand an ordinary degree of pressure from above without yielding. This is well illustrated in cases of complete perineal laceration with separation of the levator ani muscle so that the lower system of support offers little resistance to descent of the uterus. In patients who spend most of their time lounging and are not obliged to lift heavy weights or stand upon their feet, all of us have been surprised to find that the position of the uterus and adnexa was practically normal. When the pressure is great the upper system is reinforced by the muscles forming the pelvic diaphragm or lower system of support.

The vagina passes up through the pelvic diaphragm. The uterus projects into the vagina. If the axis of the uterus corresponded with the axis of the vagina the lower system of support could offer no resistance to the descent of the organ. The normal position of the uterus, however, is nearly at right angles to the vagina, which prevents it from passing through the opening between the

levator ani muscles occupied by the vagina.

Lateral deviations will be merely mentioned. They are practically always incidental to some pathological process or growth, and cannot be corrected without dealing with the causative condition.

Anterior displacements occur usually in nullipara. Anteversion may occur, but we nearly always find either an antelexion or a combination of flexion and version. Fortunately, they seldom occasion sufficient distress to demand correction; and child-bearing, unless deferred too late in life, will effect a restoration of position. In cases of long standing and much consequent thinning of the wall of the uterus at the site of the bending on the concave side and thickening on the convex side, we may have a return of the deviation when involution is complete. In most mild cases a divulsion with or without a curettment, will give relief from the symptoms for which we are consulted.

Retro-displacements are the deviations most frequently found. Retroversion may or may not be complicated with flexion. A high degree of flexion is seldom found except in multipara; as the surgical indications are not modified as a rule by a co-existing flexion, we will not enter into a discussion of the pathology of flexion. Retroversions are usually classified as those of the first or minor degree when the fundus uteri points toward the promontory of the sacrum; of the second or medium degree when the fundus points toward the hollow of the sacrum; and the third or extreme degree when it points toward the tip of the coccyx. All intermediate de-

grees are met with. It is almost unnecessary to add that a case of retro-deviation of the first or second degree, given sufficient time, will ultimately become one of the third degree. As soon as the anterior surface of uterus receives the force of the intra-abdominal pressure it is only a question of time when the extreme degree will be reached.

Retrodeviations for practical purposes may be classified as those complicated by adhesions, with or without pathological conditions of some of the adnexa; and those in which there are no adhesions or other pathological conditions requiring surgical attention. The latter class is naturally divisible into two subclasses, in one of which the uterus is in the state of subinvolution, and another in which the factor of subinvolution does not exist.

Retrodeviation with adhesions or other pathological conditions requiring attention, cannot be dealt with without opening the peritoneal cavity. This is done in the median line, through the vagina, or by going beneath the lower border of the internal oblique and transversalis muscles after separating the fibers of the aponeurosis of the external oblique as recommended by Goldspohn, and called by him an extended Alexander operation. Of these methods the central incision has much to recommend it, in my judgment.

After dealing with the adhesions, *eter*, we have the choice of two operations for correcting the position of the uterus, namely, ventrofixation or suspension, and shortening the round ligaments according to Gilliam's method.

The technique of ventrofixation is well understood, as given in all recent text books on gynecology, and need not occupy our time here. After the child-bearing period it is a good operation. During the fruitful period it has some serious objections.

Gilliam's plan has much to recommend it. The nearer the round ligaments are made to draw upon the uterus in their natural line the better. This might be done by drawing them through the wall lower down than as described by Gilliam. His plan is as follows:

A suture is passed under the round ligament one and one-half inches in front of the uterus on each side. The edge of the muscular portion of the incision is held firmly while the superficial structures are retracted. A sharp-pointed forceps is pushed slantingly through the wall, commencing one-half inch from the incision and one and one-half inches above the pubic arch, emerging one inch from the incision. The ligature around the ligament is pulled through the abdominal wall, and with it a loop of the ligament. The loop is pulled a short distance above the aponeurosis and secured. His method, if I understand it, does not include any part of the ligament in the suture, the same being held by suturing the tissues between the limbs of the loop. This operation has not yet stood the test of time, but has much to recommend it. It is certainly the best intraperitoneal method of shortening the ligaments thus far coming to my notice.

Intraperitoneal shortening of the round ligaments through the vaginal incision is very unsatisfactory. The only circumstance that recommends it

in the least is the absence of visible scar. This is minimized by the fact that scars in extra-pelvic methods need not be large and are partly or wholly covered with hair. The objections are, greater danger to the patient, the danger of adhesions, the using of the strongest part of the ligament for loops and the weakest part to stand the strain of holding the uterus in position. Statistics show more failures and complications during subsequent pregnancies. This forms a formidable array of objections to which a patient should not be subjected for merely esthetic reasons.

Extra-pelvic shortening is devoid of danger. Adhesions cannot occur; recurrences are less common than in any other schemes for correcting a retro-deviation of the uterus.

The wisdom of making the existence or non-existence of subinvolution a basis for subdivision of the class of retrodisplacements without adhesions, becomes apparent when we come to study any given case for the purpose of correction. We have seen that plain muscle fiber forms the round ligaments and enters largely into the formation of the utero-sacral ligaments and is more or less intermixed with the areolar tissue between the walls of the broad ligament. When subinvolution of the uterus is present a corresponding degree of subinvolution exists in all ligaments of the organ which contain plain muscle fiber. Subinvolution of the uterus increases its weight and adds to the difficulty of keeping it in position. Subinvolution of the ligaments relaxes them and lessens their ability to support the uterus, and displacement results. The common-

est cause of such a state of subinvolution is laceration of the cervix. The indication in such a case is to repair the cervix and perineum, or lower system of supports; if necessary, replace the uterus and keep it in position with a pessary until involution is complete. If subinvolution is due to some other cause it should be treated while the uterus is supported. A certain degree of descent of the uterus is a factor in such a case because of the relaxations of the utero-sacral ligaments. The pessary takes off the strain on these ligaments and permits them to shorten during the process of involution. Occasionally such a case as has just been described will be cured without further operative procedure. Should the resultant changes in the uterus and ligaments fail to restore the position of the uterus after three months trial, the case then falls into the sub-class of retrodeviation in which subinvolution is not a factor. These cases are nearly always found in the nullipara. The lower system of supports, or pelvic diaphragm, in these cases are intact. The uterus is usually more or less undeveloped. There is a general laxness of the structures forming the upper system of support with the exception of the vesico-vaginal ligament. As might be guessed, this degree of laxness affects the ligaments in a ratio of their correspondence to the uterus in structure. The round ligaments being practically identical histologically are extremely lax. Since the attachments of all the other ligaments forming the upper system of uterine supports are low down on the uterus, except the broad and round ligaments, and the ar-

rangement of the structures forming the broad ligaments is such that those portions having low attachments only really support the organ, there is little save the integrity of the round ligaments to prevent a retro-displacement in an otherwise normal pelvis. When these are elongated the uterus is always retroverted.

This furnishes a clear indication as to the proper surgical procedure to correct a retro-displacement belonging to this sub-class. To repeat, then: In a case of retro-deviation without adhesions or other pathological conditions of the uterus or adnexa requiring surgery, with the pelvic diaphragm or lower system of uterine support in a state of integrity, the indication is clearly for shortening the round ligaments. Such a case does not require an abdominal incision to deal with adhesions or diseased adnexa. The pelvis is left in a normal state. Complications never occur in subsequent pregnancies. The condition of these patients usually does not warrant a hazardous operation. The condition in itself is not hazardous. No matter how perfect our technique, opening the peritoneal cavity is accompanied by some risk, besides the operation can be better done extraperitoneally. The only points of difference in the recommendations of different operators for extra-pelvic shortening relate to the methods of finding the ligaments and fastening them. They can be found at the external abdominal ring or near the inner end of the inguinal canal a little internal to the internal abdominal ring. The advantages of picking up the ligament at the external ring are merely that one not thoroughly

conversant with the anatomy of the inguinal canal can more easily find it here. The disadvantages are that it is difficult in most cases to pull it out sufficiently to control the position of the uterus without dividing the anterior wall of the canal. The ligament gives off fibers for attachment along the canal. It is smaller at the external ring than at the internal ring. Unless you open up the inguinal canal you are liable to split off many of the fibers of attachment and weaken the ligament and run a risk of breaking it before you get it fully loosened. This would be an embarrassing accident. Further, dissecting it out of the canal would increase the danger of post-operative hernia. Once you are sufficiently familiar with the anatomy of the canal you can find it more easily just inside the internal ring and obviate all these objections. Kellogg's method with slight modification recommends itself to me. It is done as follows: Locate the internal ring by locating the femoral artery where it passes out from under Poupart's ligament. Poupart's ligament can be easily felt in all but extremely obese subjects. The internal ring is one-half inch above Poupart's ligament and in the line of the femoral artery. Make a short incision one-half inch above the parallel to Poupart's ligament, its outer end extending just beyond the internal ring. Separate all the fasciæ down to the white glistening aponeurosis of the external oblique muscle. In thin subjects an incision one inch in length is sufficient. With small retractors the incision can be moved freely and made to expose the aponeurosis over quite an area. Having controlled all

bleeding, separate the fibers of the aponeurosis with the point of a knife about one-fourth of an inch above Poupart's ligament and half an inch inside of the internal ring. The opening in the aponeurosis need not be over half an inch in length. Kellogg recommends a verticle incision, cutting the fibers in the aponeurosis. Such an incision readily frays out at the edges and does not close satisfactorily. With a hook not too sharp, as it must be remembered that the *vene commites* of the deep epigastric artery as well as the artery itself are near at hand, you search for the ligament by keeping the point of your hook first against the inner surface of the anterior wall of the canal, then the floor, and finally the outer surface, of the inner wall before withdrawing the hook. This makes it include the contents of the canal. You will likely secure the ligament at the first trial. If you do not, seize with a hemostat the fascia you draw out and repeat the manœuvre. If you do not get it at second trial you are probably searching for it too far away from the median line of the body. Try a little farther from the internal ring. When you bring it up, have an assistant hold the hook while you separate it from the fascia and the genital branch of the genito-crural nerve. When you have the ligament thus cleared you will find that gentle traction draws it out of the pelvic cavity. The peritoneum soon appears intimately related to it and partially surrounding it. This readily peels off. If you are wearing gloves use your thumb nail for peeling it off; if not, then use gauze or a blunt instrument. I would not risk infection by using the naked

nail, no matter how carefully you have cleansed your hands. It is usually necessary to draw out four to six or more inches. When your assistant announces that traction upon the ligaments properly controls the fundus of the uterus you may cover up your incision and repeat the steps of the operation on the opposite side. If your assistant can determine that the uterus is in the median line you may fasten the ligament before proceeding to the opposite side. This is an important step in the operation. The ligament is usually much larger when enough has been drawn out. In fact, experience will teach you that by the appearance of the ligament you can nearly tell when you have enough of the ligament drawn out. The contents of the inguinal canal have not been disturbed and you have a loop of ligament retaining all its original attachments to deal with. Its nutrient artery courses along the center. This must not be included in your suture for obvious reasons. With a short full-curved needle loaded with twenty-day chromicised catgut you catch a little of the edge of the opening in the aponeurosis of the external oblique muscle about one-third of the thickness of the upper limb of the loop of ligament, then the lower edge of the ligament. This is immediately tied and cut off. Then have your incision in the superficial structures pulled well upward and inward. Then with an artery needle, with a point a little sharper than as ordinarily used, puncture the aponeurosis of the external oblique muscle about an inch and a half upward and a little inward from the opening you have just closed. Carry the point of the needle just

beneath the aponeurosis in the direction of the first opening and bring it out about half an inch from said opening. Pass a small tape through the loop of ligament and thread both ends together through the eye of the needle. Then withdraw the needle, carrying the tape into the nearest opening and out of the upper one. See that the tape is at the extreme end of the loop and not twisted where it is in contact with the ligament. The ligament must not be bruised. Gently draw the ligament through these openings with the tape. Do not use force. If it does not pass with gentle traction enlarge the openings with the point of a knife. After drawing it through barely taut pick up the edges of the lower opening and a little of the ligament as in dealing with the first opening. Fasten it again at opening where it emerges in like manner. Only fasten the limb of the loop which is attached to the uterus. Anchor the remainder of the loop to the aponeurosis as far away as your incision through the parts will permit. Do not have much tension in the ligaments anywhere. The superficial incision may be closed to suit the notion of the operator.

Unusual care should be taken to prevent suppuration. Have the preparation of the field for operation extend at least one third down the thighs. Cover external genitalia with a moist pad between the thighs during operation. After the operation have your dressing extend down the thighs, and hold it securely in position with a strip of adhesive plaster running around the thigh. The patient should be kept very quiet one week. Then she may be lifted to an easy chair for

rest. Keep her reasonably quiet the second week. Would recommend using a pessary three months if uterus is heavy; if small, two months. If patient is a nullipara, and gives history of dysmenorrhœa, dilate the cervix at time of operation before shortening the ligament. Curette, if necessary, but be very sure it is necessary. With such care suppuration should not occur. Should it occur, it is certain to spoil the result of your work if left to run its course. At first indication of such untoward result remove sutures from the superficial incision and give frequent and prolonged irrigations of the wound with a 3½ per cent. boracic acid solution. You may save the ligament. In such a case you would necessarily require your patient to remain quiet and recumbent till the wound heals. In one of my patients, suppuration was unaccompanied by fever, and not suspected till so far advanced as to spoil the ligament. This was the result of faulty preparation of the patient.

Nothing in my practice has given a greater degree of mutual satisfaction than my recent cases of Alexander operation.

DISCUSSION.

Dr. W. T. Elam, St. Joseph: Displacement of the uterus is a subject which has engaged attention for many years. It is not the displacement that causes the trouble, but the condition that brings about the displacement, and the displacement aggravates the pre-existing trouble. The cause is usually subinvolution. The collar of connective tissue which surrounds the cervix offers in itself decided support. Laceration of the cervix produces an

inflammation causing contraction of the utero-sacral ligament or the utero-vesical ligaments. To illustrate my statement that the displacement in itself does not cause the trouble, I have a patient with a retro-displacement, but she is the picture of health, and goes about her duties. The only symptom she has had is leucorrhœa and some little menorrhagic disturbance. I believe, as a rule, where the round ligament is stretched it becomes functionally inactive, and any shortening of the ligament, unless the existing cause is removed, will give little or no relief. Many have to have the displacement corrected by some other means after the Alexander operation. Such depleting measures as the use of boroglyceride or scarification of the cervix will sometimes do much to relieve the condition.

Dr. Frank Glasgow, St. Louis: I rise to call attention to some things I consider of importance. All writers have admitted the effect of laceration on the descent of the uterus, but there is something they have not taken into consideration, and that is the condition of the muscular fibers supporting the uterus. That was impressed on me very strongly some years ago in a case where there was no laceration. The woman was a virgin, and, though there was no laceration, the uterus was outside of the body. You could explain this only on the condition of the muscles. I also saw a case in an infant ten days old. In this case, too, the uterus was outside the body; there was a spina bifida and a paralysis, I suppose, of all the muscles of the pelvis, hence the muscles would not support it. Now, as to these cases. In one the woman was

run down in health; she was a nurse and had lifted an old lady much. In the child, there was absolute paralysis. You see this state of things in a minor degree in many cases, and these are the cases that are cured by pessaries. We find them in young girls. You can replace the uterus, put in the pessary, and in a month or two the probabilities are the woman will be all right. These cases are cured by pessaries; they are sometimes cured merely by replacement. We all know we must repair the part that is torn, but this looking after the condition of the muscles, the necessity for toning them up, is not recognized. The case of the infant was unique to me. I never heard of but one case, and that one Dr. Dorsett told me he had read of and had saved the clipping.

Dr. Kieffer, in closing: I apologize for the incompleteness of the paper, but I would like to have the members consider what I have said. The most important points were overlooked in the discussion. Shortening the round ligaments will relieve the leucorrhœa and menorrhagic disturbance in the case mentioned by Dr. Elam. We have two separate and distinct systems of support, the upper and the lower system, and with the levator ani muscles not intact you will always have a descent of the uterus. Yet we have seen cases where there was complete laceration of the perineum, but still found the uterus in pretty good shape, the levator ani muscles not being separated. Hirst, who has a large experience as an obstetrician as well as gynecologist, says his best results were secured from shortening the round ligament. He scores all fixation schemes in the

pelvis. Ventro-fixation and the Alexander operation are the only ones he recommends. I have attempted to define clearly in this paper the class of patients wherein the operation is

indicated. When the lower system of supports is intact and you have an elongation of the ligaments, shortening of the round ligament gives excellent results.

THE ABDOMINAL VS. THE VAGINAL ROUTE IN PELVIC SURGERY.*

By C. LESTER HALL, M. D., Kansas City.

The solution of this question may never be reached, since the advocates of each route are largely influenced in their opinions by the view point of personal experience.

The surgeon of large experience by the vaginal route must of necessity lean toward that method, and, though he may be quite as capable as the average surgeon in the abdominal route, his familiarity with vaginal work and acquired dexterity by this method must make him a partisan to that route. The converse is true of him who has almost wholly employed abdominal celiotomy in dealing with pelvic conditions. Thus, surgeons are wedded to that method with which they are most familiar, and with which experience has made them more dexterous. Aside from this axiomatic concession, it should be possible to discuss the question upon a broader basis with the presentation of the merits of each route.

Avoidance of ruts in operative work is quite as essential as avoidance of routine therapeutics. The physician who treats his patients with a set of stock prescriptions may be a success-

ful practitioner, but he fails to attain that higher standing in his profession that is possible with one who not only critically differentiates conditions, but constructs his treatment on scientific and rational bases.

I suppose it is accepted by all abdominal and pelvic surgeons that the route of choice is by the vagina in pelvic accumulations which have gravitated into Douglas' cul-de-sac, where free drainage can be established without entering the peritoneal cavity.

This may also apply to a condition of prolapsed appendages without adhesions, where, for cosmetic reasons, it may be desirable to avoid an abdominal scar and the possibility of a subsequent ventral hernia. Neither of these considerations are tenable in the practice of one who employs modern technique. But it is in those inflammatory conditions involving the periuterine tissues, tubes and ovaries with adhesions high in the pelvic cavity—where the palpating hand can scarcely reach the inflammatory mass—that discussion has arisen as to the best method to be employed.

It is contended by the advocates of the vaginal route that the peritoneal cavity can be entered from below,

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either by anterior or posterior colpotomy; that adhesions can be broken up—relying upon the sense of touch—or through an enlarged vaginal incision the mass of adherent tubes, ovaries, fundus of the uterus, intestines, mesentery and omentum, can be brought into view and broken up—rents and tears repaired, and returned into the cavity quite as readily as by the abdominal route. Without taking the time to mention the names of workers who set up these claims—and many stand high in the profession—it is difficult to conceive how it is possible.

To those who open the abdomen by a liberal incision and attack pathologic conditions under the direct guidance of the eye and meet with almost insurmountable difficulties, the claim of those who say that the same can be accomplished by the vaginal route seem extravagant.

The traction necessary to bring about the displacement of the pelvic viscera and liberate adhesions which are often dense, is so great that dangerous ruptures result which often evade detection when the work is done by the vaginal route. Even when done through the open abdomen, with most painstaking care, these accidents are perplexing and often difficult to remedy.

Modern technique demands the most careful covering up of abraded and cut surfaces, to prevent subsequent adhesions, which are the *bête noir* of pelvic and abdominal surgery. This is quite impossible by the vaginal route.

Granting that vaginal drainage is the most direct and therefore the best

where drainage is necessary, it may justly be claimed that in the very nature of things the vagina is the most difficult to clean, the rectum excepted, of any operating field.

To scrub the vaginal mucous membrane with brush and germicide, means the destruction of nature's protective wall and leaves avenues for the entrance of infecting germs. To use bland agents in the preparation of the vagina for operative work, means that the canal is not rendered sterile. To bring down into such a field the appendages for resection and repair and then restore them to the cavity, entails risk of infection.

Among the difficulties encountered in operating through the vagina may be mentioned the contracted or senile vagina. This contraction is not confined to the vulva or lower segment of the canal, but is often found in the upper third. Since pathologic conditions, demanding surgical intervention, frequently occur at an age at which we expect atrophic and senile changes, this narrowing of the vagina is to be expected as a complicating condition.

The difficulties in controlling hemorrhage with any degree of certainty by the vaginal route, are not encountered by abdominal section where we can, with visual aid, locate and secure vessels before division, or readily and accurately ligate them after they are cut.

Vaginal hysterectomy implies a pan-hysterectomy, in which the keystone of the arch of the vagina is removed which, in the opinion of the writer, should not be done except for malignant disease. In abdominal hys-

terectomy the cervix is left and the integrity of the vagina is not disturbed.

Of the two vaginal routes, for conservative or radical work upon the appendages, viz.: anterior and posterior colpotomy, the latter is greatly to be preferred where drainage is necessary. Where anterior colpotomy is done, the cul-de-sac, being lower than the separated bladder and uterus, acts as a closed receptacle for any fluid which escapes into the abdomen, and if this fluid be infectious we may expect local if not general peritonitis. Anterior colpotomy for the correction of retro-displacements by vaginal fixation has not had the sanction of operators to a great extent. Granting that adhesions can be broken up by this route, the extreme anterior fixation—which is necessary to successful results—establishes such new anatomical relations, that not only is the comfort of the patient endangered but maternity is jeopardized. These backward displacements with adhesions can be more anatomically and certainly corrected by the abdominal route in the employment of some of the methods of shortening the round ligament, preferably that of Montgomery, of Philadelphia.

So might various conditions be specified and reasons assigned for the employment of the abdominal in preference to the vaginal route, but a brief recapitulation will suffice to establish the superiority of the abdominal route:

(1) Except for pelvic accumulations presenting low down upon the vault of the vagina, the abdominal route possess every advantage. (2)

The abdominal method offers the advantage of the employment of the eye to aid the work of the hand, thus not only avoiding mishaps but affording opportunity for correcting them when they do occur. (3) With approved technique the abdomen can be opened above with less danger of infection than by the vaginal route, with more certain control of hemorrhage and accurate removal or repair of diseased organs. (4) The contracted or senile vagina, occurring so often coincidentally with pathologic changes in the pelvic cavity, with fixation of the uterus, presents difficulties which have to be experienced to be fully appreciated.

DISCUSSION.

Dr. W. T. Elam, St. Joseph: The route of operation upon any deeply situated organ must depend upon the familiarity of the individual with the organ, its function and the route or routes by which it may be reached. The man who is familiar with a certain route, having performed operations through one route, the vaginal, for instance, is a better operator by that route. Either route will suffice, but in the majority of instances, except hysterectomy, the vaginal route is not as dangerous as the abdominal. If you have accumulations in the cul-de-sac or pus in the layers of the broad ligament, they can be more easily and satisfactorily and safely reached through the vaginal route, and it is not so grave an operation as opening the abdomen. I take the position that under ordinary circumstances, where the purulent accumulations can be accurately determined, opening through the vaginal route is the best. While it may not give that

satisfaction obtained where the opening is made above, it does give a symptomatic cure almost as satisfactory. As to the removal of the uterus, vaginal hysterectomy is not satisfactory. It lays the patient open to the danger of hemorrhage and increases the danger of mortality. It has not appealed to me sufficiently to get me into very deep water. In one of my cases the cellular and pelvic tissue throughout was involved, the organ itself involved and multiple abscesses found in its walls. The patient had been sick some time and it was not found possible to perform either vaginal or abdominal hysterectomy without endangering the patient's life. I did the operation in two successive steps. I made an incision around the os, went up into the abdominal cavity posteriorly between the rectum and uterus through Douglas's cul-de-sac, then out between the layers of the broad ligament, evacuated pockets of pus and left the uterus in situ, held there by the apex of the broad and round ligaments. Around the body I packed gauze and sent the patient to bed. Seven days thereafter I opened the abdomen, found practically no pus, removed this great, big septic uterus and the patient got well.

Dr. O. B. Campbell, St. Joseph: I think Dr. Hall's paper will, in general, meet the approval of American operators. In America the abdominal route is generally preferred, but while this is true, it is equally true, as Dr. Elam has stated, that the choice of methods depends upon the familiarity of the operator with the route chosen. In the clinics of Europe a great deal of work is done through the vaginal route and the mortality

reports compare with the reports from work done in this country through the abdominal route. But progress continues, new operations are being brought out, and, in considering this subject today, we should go into detail as regards conditions when we attempt to make a choice of routes. The question is, are we to do with complete work or incomplete work? Are we to adopt a mere life-saving operation, leaving the patient with a retro-deviated uterus, breaking up as few adhesions as possible? To draw the uterus down and out requires as much manipulation as the operation through the suprapubic route. Now, we are not sure of the control of hemorrhage in the vaginal work. I have done a good many operations through the anterior vaginal incisions and I have had difficulty in controlling the hemorrhage, and when, after loosening up adhesions, I have found it necessary to remove the appendages, I have felt very uncertain of my results in the control of hemorrhage. I saw one of the greatest surgeons in Europe operate on an old inflammatory case, with a posterior deviation, in which there was no pus; he turned the uterus down through an anterior incision, and that patient died from hemorrhage five minutes after she was taken off the table though fifty ligatures had been taken.

Dr. Katherine B. Richardson, Kansas City: I am not permitted to see gentlemen operate very often, and am in the position of ministers who fall from grace because they never hear anybody preach. But I remember seeing two gentlemen become very angry because they could not agree on which side the fetal heartbeat could

be heard. The subsequent birth proved that there were twins. Now it seems to me, from my limited view, that there are certain cases where it would be preposterous to go in through any other route than the vaginal, while in other cases it would be equally preposterous to attempt a vaginal operation. As to the objection that if you begin the operation through the vaginal route you may have to go through the abdominal route, why is it such a serious thing to begin an operation by the vaginal route and then finish it through the abdomen? I think the women surgeons will more often prefer the vaginal route to the abdominal, and this is where they have a little advantage over their brothers on account of the size of their hands. I have a case where the uterus is hanging almost entirely out of the vagina and there are scarcely any adhesions. How could any one say that patient should be operated on through the abdomen. I have another in which the uterus is very high up and very septic. How could any one say that patient should be operated on through the vagina? We are all inclined to think that the way with which we are most familiar is the best.

Dr. Frank Glasgow, St. Louis: I used to be more of an advocate of the vaginal route than I am now. For some years I felt it was open to discussion because the vaginal route was less fatal; now that is not true, and I now confirm every word that Dr. Dorsett has said. I, too, limit its use to removal of pus in the cul-de-sac. I am accustomed to operating more by the sense of touch than many surgeons and consequently I might prefer the

vaginal route, but I see less and less use for it. As to hemorrhage, I had one case where the ligature slipped. One speaker has spoken about going in above to ligate the bleeding vessel. You cannot do this in time to save your patient. In my case I only saved the patient by making a dumb-bell pack the size of a child's head, I would have lost that patient if I had not done that. The vaginal route is only fit for removing small uterine tumors and for opening collections of pus low down in the pelvis.

Dr. Thomas J. Beattie, Kansas City: The subject to me is a very timely one. Dr. Dorsett says this subject has been discussed at four or five annual meetings, and I think if we would discuss it more frequently than we have done, we would be better off. There is a field for more frequent entering of the pelvic cavity through the vagina than has been done in the past. There are many troubles that can be relieved through the vaginal route. The vaginal route is certainly the best route so far as shock is concerned, drainage, or in any condition, inflammatory or otherwise, that you can reach through the vagina. More work is not done through the vagina because operators do not know how to do it. I am surprised that Dr. Campbell would stay in an operating room and see an operation under such conditions as he describes. There should be no such hemorrhage as the work is done today. You have the whole field before you. It is a simple thing to prevent such a hemorrhage. With two ligatures you can have absolute control of any hemorrhage that may occur around the uterus. It requires much

more skill to do work through the vagina, and I am doing most of my work through the abdomen; but I believe that through the pelvis we can resect the ovaries, loosen adhesions, remove fibroids of reasonable size, and do many operations that are being done through the abdomen. The best route for fixation of the uterus for support is through the abdomen.

Dr. L. J. Dandurant, St. Joseph: I agree most thoroughly with Dr. Dorsett and the others who state that they have eliminated the vaginal route for all except a very few cases. The intention of the essayist, I think, was to bring out the merits of both routes, and the points of discrimination for the selection of either. It all boils down to two conditions: When we have an inflammatory mass up in the pelvis we cannot always tell what is involved in that mass, and a man is taking chances when he goes through the vagina. On the other hand, when we can see perfectly what we are doing, it is the best procedure in order to remove the diseased condition. It is more a matter of ability to diagnose the condition rather than of dexterity in the operation itself. Possible injury to the bowel and to the bladder should be taken into consideration. One can ligate very nicely, as the two speakers preceding me have advocated, if the vessels occupy their normal position as described by Gray, and have not been distorted by the pathological mass. However, it is not such an easy matter in reality to ligate those vessels and obviate the dangers. The most important point, as Dr. Hall says, is the danger of sepsis. It is next to impossible to make the vagina abso-

lutely sterile. It is a difficult matter to secure a sterile condition even where we can use a brush and soap; but here, where we cannot employ such means and must go in where there is infectious material, there is great liability that an infection may be set up and the death of the patient be the result.

Dr. A. H. Cordier, Kansas City: While I agree with Dr. Dorsett and Dr. Hall I want to call attention to the method of determining which of these operations we should do. I prefer the abdominal operation except in cases of malignancy and disease of the cervix itself. But suppose a patient presents herself with a history of recent abortion or recent confinement. This patient previously was perfectly well. She develops the usual septic symptoms, temperature running 104° to 105°, high pulse rate, and you find an inflammatory condition indicating that it has gone on to suppuration. It would be foolish to go in through the abdomen. You have an acute infection and by opening the abdomen you would open a clean peritoneum and might infect your patient with a fatal result. Again, these patients will not withstand a severe operation. You must select the operation that will be quickest and attended by the least amount of shock. Many of these cases have been treated by the trochar or the aspirator and these cases get well after draining off the pus. Such cases almost invariably get well from the vaginal incision. But don't disturb the adhesions. Take another case of chronic invalidism, repeated office visits, applications of tincture of iodine two or three times a week, all indicating a chronic con-

dition of the ovaries and tubes. Let one of these patients get an acute attack. You have here a condition in the pelvis that will continue regardless of palliative measures. The condition is not as virulent and the patient is more or less immunized. In such cases there will be enormous pockets of pus. If you go in the vagina and puncture the pockets of pus and put in a drainage tube your patient will generally improve. In such cases you should go in from above and remove the entire diseased structure. Vaginal operations for infectious conditions should not always be condemned.

Dr. St. Elmo Sanders, Kansas City: Regarding the blood supply of the uterus, the ovarian artery as it courses along the top of the broad ligament gives off a few large branches and the uterine artery gives off few branches until closely approaching the uterus. Occasionally at a point about midway between the uterus and pelvic wall there is a large branch given off from the ovarian artery which anastomoses with the artery to the round ligament and with a branch from the uterine artery. In these cases the two ligatures will not control the hemorrhage which comes from these two large branches. I have

seen this in several cases. I have sometimes seen it in removing the ovaries and tubes. How often it occurs I do not know, but in every fifth or sixth case, I think. As to shock, if you want to avoid shock you will have to avoid making traction on the mesentery. If we go in above, we make traction on the mesentery and if we go in below we make less of a pull on the mesentery and we have less shock because we are operating near the peripheral nerves. In regard to shock under anesthesia, why not use sterile water? I have just come from a successful laparotomy with sterile water. It was a case of tubercular peritonitis. The man lay there and talked to me all the time and said he felt no pain except when we made traction on the mesentery.

Dr. Hall, in closing: I thank the association for the reception which has been given my paper and the gentlemen who have so liberally endorsed my position. We all agree that where there is pus in the cavity drainage through the vagina is right. We all believe that hemorrhage can be most thoroughly controlled from above, and we all agree that the vagina cannot be cleaned for operation. I think the position I have taken is correct and I am glad to have you endorse it.

ABORTION FOLLOWED BY THROMBO-PHLEBITIS AND EMBOLIC PNEUMONIA.*

BY FRANCIS REDER, M. D., St. Louis.

An abnormal rotundity of the abdomen in an unmarried woman of thirty-two years, where an exhaustive examination led up to a culpable inference as to the cause of this enlargement, is directly responsible for the complications that followed the introductory steps for the relief of the existing condition.

I have been convinced on several occasions that a differential diagnosis between pregnancy and an abdominal enlargement from other causes is sometimes an exceedingly difficult matter. Especially is this true when the more reliable signs of pregnancy are not yet developed, or are clouded, and where there is a willful antagonism on the part of the woman toward the efforts of the physician to arrive at a definite conclusion.

After an exhaustive inquiry into the patient's history and a thorough examination, a diagnosis of fibromyoma was made. Appreciating the fact that the pregnant uterus is by far the most common abdominal tumor, the satisfaction gleaned from abdominal palpation, inspection, auscultation and a combined examination, gave me the assurance of a correct diagnosis.

The history of the patient was briefly this: Menstruation always irregular, a cessation of from two to five months being not infrequent. In the year 1904 she menstruated in February, again in May and August.

* Read before the St. Louis Gynecological and Obstetrical Society, October 12, 1905.

That was the last menstruation (I saw the patient November 29th). Her menses were free from pain, quite profuse, and the duration from five to seven days. About the middle of August she noticed a fullness in the lower part of her abdomen, and also noticed that this fullness increased quite rapidly. She consulted her family physician, who, after observing her condition for two months, pronounced this fullness to be a tumor and advised immediate removal.

The patient has always been in good health, and the appearance of the tumor did not influence her state of health in any appreciable manner. Her appetite was always good. There never was any nausea. The renal function was the same now as it has been in the past. Her breasts were at no time painful except during menstruation. They did not appear to her to have increased in size; there was no increase in salivation. She has had a leucorrhea for years, to which she paid no attention. A direct question as to coitus was met with a stern and flat denial. Here I may state that her family physician, who was present during the examination, informed me that it was hardly necessary to ask such a question, as Miss A. was a most estimable woman and devoted to her church. When the doctor championed his patient's cause with these words he caused me to dismiss from my mind the only sign that gave me any concern about my diagnosis. This sign was the pe-

culiar, I may say characteristic, condition of the cervix.

The findings revealed by the examination proved to demonstrate nothing that could directly favor pregnancy. There was a swelling symmetrical in contour, round, and readily palpable, extending a little above the umbilical line. The swelling was hard, and gave a uniform distension to the abdomen. Percussion note was dull; auscultation elicited no fetal heart sound and no bruit.

Vaginal examination revealed the cervix swollen, soft and very moist, permitting the introduction of the examining finger through the external os without difficulty. The cul-de-sac was filled with a uniform mass that felt smooth, hard, yet elastic.

The breasts were fairly well developed, with buried nipples. Montgomery's tubercles could be seen; they were, however, not prominent. The woman was a brunette, which in itself would cause the areola to be strongly pigmented.

Specific gravity of the urine 1.018, no albumin, quantity about sixty ounces in twenty-four hours. Upon standing no "kyestinic pellicle" developed.

From these findings I was not able to demonstrate to myself anything else about this condition excepting that I was confronted with a fibromyoma of the uterus.

The patient was very anxious to be relieved of the tumor. In telling her how such a removal was effected, I emphasized the danger of the operation in the hope that perhaps a latent disclosure might be made by the patient. Her willingness to be oper-

ated on, however, was such that I relieved myself of any further doubt as to the correctness of my diagnosis.

November 29th she entered the hospital. On December 2d I made an abdominal section. I encountered no obstacle in entering the abdominal cavity and found the tumor without difficulty. My suspicion was immediately aroused by its shape and color. The shape was round and smooth, the color that of a ripe egg-plant. In lifting the tumor out of its bed I was able to deliver it with ease. I was now able to recognize my error by what I could feel in the uterine cavity, the head and body of the fetus.

•The uterus was returned to the abdominal cavity, with as little handling as was possible, and the wound closed.

On December 4th the uterine contents were expelled after the woman had been in pain for about eight hours. The fetus showed the development of the fifth month.

Up to December 9th the patient's condition was that of a normal puerperium. On that day, at 8:30, a temperature of 100.4 deg. F. and pulse 92 were registered. The pulse was irregular; local symptoms of any septic inflammation were wanting.

Up to December 18th the temperature and pulse rate fluctuated but slightly. Patient refused nourishment, complained of nausea, vomiting often. December 19, at 6 p. m., temperature 101, pulse 120, abdomen tympanitic and very painful, especially over the uterus and left iliac region. Left inguinal region and left thigh were swollen and very

painful. Patient very restless, unable to sleep, showing great physical depression.

On December 23d a similar condition of thrombotic phlegmonism manifested itself in the right leg. The attack proved more severe than the phlegmon of the left leg, undoubtedly due to the debilitated condition of the patient.

December 26th found the patient in a very serious condition. At 1 A. M., after chilling for an hour, she was suddenly seized with severe dyspnea, a marked sense of oppression and a sharp pain in the right inframammary region. Temperature 102.2, pulse 120, respiration 44. It was not difficult to make a diagnosis of an embolic process in the left inferior lobe (anteriorly) of the lung, inasmuch as there was present the etiological factor.

That we had to contend with a hemorrhagic infarction of a considerable portion of lung substance was evidenced by the area of dullness and the bloody sputum that was expectorated. This sputum was very dark in color, having an admixture of little mucus. It had an appearance of solidity.

The patient's face gave evidence of the seriousness of her condition. There was a dusky flush usually upon both cheeks, but sometimes only upon one, and the drawn features portrayed a picture that presented a gloomy outlook.

December 27th, 6 P. M., temperature 104.6, pulse 130, respiration 32. For four days the temperature and pulse fluctuated. Temperature, 102 and 104 degrees; pulse very irregular, at times ranging from 120 to

140 beats. The day following, patient showed slight improvement. The dyspnea became less marked and the sputum began to show less blood, but it became very offensive. At 7 A. M., December 31st, the patient was suddenly taken with a very severe chill, marked difficulty of breathing and pain in the left inframammary region. The clinical picture so clearly defined during the invasion of the right lower lobe was here repeated only with a lesser intensity. The highest temperature recorded was 103.4, the pulse reaching 130 beats. The sputum again became characteristic. For two weeks the patient drifted along in a gloom that bid fair to deepen. The complicating diseases had racked her system severely and the latent powers of the patient had become well nigh exhausted, when, on January 20th, a normal temperature with an encouraging pulse of 98, intermitting about every tenth beat, was recorded. With the exception of a gentle deviation from the normal temperature curve and a pulse rate ranging from 88 to 98, the patient, for the following two weeks progressed favorably and was able to leave the hospital on March 1st.

DISCUSSION.

Dr. F. J. Taussig said that there was one thing about the question of thrombo-phlebitis that was worthy of consideration in the treatment, and that was a method which was being tested in European clinics. The great danger to the woman of metastases from the infected areas in the veins was the basis of this method. The uterine and ovarian veins were tied in cases where the thrombo-phlebitis

was located in the broad ligament. Of course this would not apply to a phlegmasia in the femoral region. Bumm, who reported his experiments along this line, was certain he had prevented septic particles being carried to the lungs, for instance, and prevented a general pyemic infection. In every case where there was a certainty of the condition being localized to these veins, it was a question whether this procedure should not be resorted to. The great trouble with every remedy for septic infection was that the individuals vary so much. Probably the great majority of patients subjected to such an infection as Dr. Reder described would have died; his survived. An experience of five or six years is needed to enable one to recommend any method of treatment as good, and thus far in the treatment of these cases of sepsis no method had stood the test, whether the serum method, panhysterectomy or what not. So, while this suggestion of Prof. Bumm seems a good one, yet the test of time would be necessary before it could be safely recommended. Reder, in his diagnosis, laid a great deal of stress upon his faith in the statement of the patient and attending physician. Dr. Tausig believed all were too ready to do that. Only recently, by not listening to the patient's statements, he had proved his diagnosis correct. It was an extra-uterine pregnancy in a married woman. The family physician also thought it was an extra-uterine pregnancy, but in talking it over with the patient's husband, the latter had said that such was absolutely impossible. He stated emphatically that it was impossible for her

to have become pregnant within the past four and a half months. Nevertheless, the removal of the patient to the hospital for operation was advised, and the patient was kept under observation for a week. During that week the patient recalled to the mind of her husband an instance of possible conception about a month ago. Had they acted upon the assumption that the first statement of the patient's husband was correct, they might have subjected her to the risk of an abdominal hemorrhage. It proved to be a tubal pregnancy of about four weeks' gestation.

Dr. Crossen expressed his gratification at Dr. Reder's courage in presenting this case, for the report of such a case did require courage. Such a report was of value in helping in differential diagnosis and in calling attention to the danger of a wrong diagnosis. He emphasized the importance of examination under anesthesia in these cases where there was doubt and where the diagnosis could not be made from the ordinary examination findings.

As to the operation of ligation and excision of infected thrombotic veins he felt that there was hope in that direction. These were desperate cases, and if the progress of the infection could be eliminated by this operation after the infection had left the uterus, the operation would mark a distinct advance in treatment. According to his recollection Bumm reported five cases, of which three recovered. The fact that some of these cases had not recovered, should not deter or discourage one, for these were extremely serious cases. Of course some patients would recover without any

treatment, thus emphasizing the individuality of patients as regards resistance to infection. Results must be obtained in a great number of cases by a great number of operators, in order that the true value of the operation may be established. Yet, he felt now that it was a reasonable procedure, and in suitable cases was preferable to hysterectomy, as it could be carried out more quickly and with less shock to the patient. The question he would like to have answered was, at what particular time or with what particular assemblage of symptoms, should the abdomen be opened with the idea of finding and ligating thrombotic veins. The abstract that he had seen did not bring out enough information on that particular point. Again, it would be a question before operation whether the condition present was a thrombosis, a cellulitis or a salpingitis. He had recently operated on a case in which the question of thrombo phlebitis would naturally arise. The patient had a miscarriage, followed by sepsis, for which she entered the hospital. Severe symptoms persisted in spite of the fact that the uterine cavity was clear. Examination findings indicated inflammation in the left side of the pelvis, probably tubal. When he opened the abdomen he found a left prosalpinx and a distinct abscess in the uterine wall, probably from the interstitial portion of the tube. He noticed no particular enlarged vein or other marked broad ligament disturbance. In a good many of the cases presenting a supposed clinical picture of infected thrombophlebitis, there will probably be found pyosalpinx instead of thrombotic veins, or the two together.

However, if the ligation and excision of infected thrombotic veins proves, on further trial, to be an operation of real value the exact clinical indications as to the presence of this condition requiring operation, and as to the time for operation, will, of course, become more clearly defined.

The President appreciated very fully the doctor's position in the presence of the antagonism of the patient in not giving the correct history and the antagonism of the physician, but so far as his own experience went he had rarely found a fibromyoma in which there was not more hemorrhage than Dr. Reder had found. These patients rarely went for three or four months without recurrent hemorrhage. This point might have been a guide to him.

Dr. Crossen said that it should be remembered that cases did occur in which there were not these hemorrhages.

Dr. Reder stated that he had taken into consideration this question of hemorrhage in making his diagnosis.

The President added that a fibromyoma that did not endanger the patient's life and was not undermining the patient's health would stand a little waiting. He had seen patients who made just such statements and, not being an operator, he had made these patient wait. In regard to the infection which had occurred five days later, he asked Dr. Reder what was the condition of the uterus during that period.

Dr. Reder replied that the uterus was normal; there was no pain and subinvolution seemed to progress normally.

The President said that in all these

post partum cases when the uterus was flaccid, when there was a material rise in temperature, and when there was severe post partum hemorrhage and a suspicion that the uterus was not contracting as it should, he had for the past ten years acted upon a suggestion of Dr. Hodgen to give small doses of ergot, quinine and strychnine, using about 1-60 of a grain of strychnine and 1-2 dram of ergot, every three or four hours for four or five days. He had never had a post-partum phlebitis since he began using this, and was sure he had stopped a gradually developing infection in several cases. They had been held in check by keeping the uterus busy with the ergot—keeping it contracted.

Dr. Robert Funkhouser asked Dr. Hall how he treated his patients after confinement.

The President replied that as a rule he did not give them anything. Occasionally one found a flaccid uterus that did not respond to any stimulant. In some cases he had exhausted every means and been compelled to hold the uterus for hours. Replying to a question by Dr. Crossen, Dr. Hall said the patients did not complain of pain after the use of the ergot in the doses mentioned.

Dr. F. J. Taussig asked if the adominal wall was very thick.

Dr. Reder replied that the abdominal wall was not unusually thick. The patient was a well-nourished country woman.

Dr. Taussig said that if they would make it a practice to detect as early as possible the fetal heart sounds the ear would become trained to recognize them earlier than was now possible.

It has been claimed that it was possible to hear them as early as the fourth month. At this time they could be heard only over the lower uterine segment. By introducing the finger into the vagina, pushing the cervix forward and upward, the lower uterine segment was brought up into the hypogastric region, and by listening in that region the fetal heart sounds could be heard in almost every case. With the amount of amniotic fluid it was readily comprehensible that it would be most difficult to hear these heart sounds over the fundus, but by pushing the lower segment up it had been claimed that they could be readily heard.

The President said that during his term of service at the female hospital it was the practice to examine every patient in the early months of pregnancy with reference to the determination of the heart sounds. In a service of over eighteen months he had never been able to detect the sounds as early as the fourth month, although he did not try lifting up the uterus. That seemed a rational procedure, as one could get nearer the fetal heart by raising up the lower segment of the uterus and avoid the thickness of the belly muscles.

Dr. Crossen said that, as he remembered the report, the gentleman who made this observation claimed to have been able to detect the fetal heart sounds as early as the thirteenth week. If this was possible, it seemed to Dr. Crossen that it would have been discovered long ago, for it was a question that had long been investigated. He noticed one report that seemed to contradict in a measure the observations mentioned. In a num-

ber of cases of an early fetus just expelled alive in miscarriage, or just removed by operation for extra-uterine pregnancy, the attempt was made to osculate the fetal heart sounds, but with very unsatisfactory results. Before accepting the statement that by pushing the uterus against the abdominal wall the fetal heart sounds could ordinarily be heard in the thirteenth week of pregnancy, he would like to see an accumulation of reports.

The president said he had an excellent opportunity in that line, as a great many women go to his clinic for diagnosis. He thought he would take up the matter and settle it for his own satisfaction. Training in this line made a difference, for he believed he could hear the fetal heart much more clearly when he made a habit of listening for it.

Dr. Reder, in closing, said there was one point that he should have recalled that might have been of some service in making the diagnosis of pregnancy as soon as the abdomen was opened and the tumor exposed. It possibly could have averted the handling and the delivery of the "tumor". The point in question was this: This tumor had the color of a ripe egg-plant; some uterine growths present a similar appearance. To differentiate between pregnant uterus and a tumor of the uterus it will suffice to draw the finger over the doubtful tumor, making gentle pressure. In the pregnant uterus a whitish line follows, which will again resume its former (blue-purple) color after the gentle pressure is relieved. In a myofibroma of the uterus this phenomenon will not take place.

OPERATIONS FOR THE RELIEF OF CICATRICIAL ORBIT.*

BY JAMES MOORES BALL, M. D., of St. Louis.

A patient who had had an eyeball removed, and who finds at an early or at a late date that he cannot wear an artificial eye, is truly in an unfortunate predicament. It is only within the last few years that attempts to relieve such a condition have been successful. In this paper I will not take into account those simple cases in which a single adhesive band of limited extent unites the upper eyelid to the stump—cases which are easily relieved by severing the attachment and inserting an artificial eye, the same to be worn constantly for a few days and nights.

I refer more particularly to those cases in which either the upper or the lower cul-de-sac, or both of them, is practically absent. In such a case contraction of all the tissues occurs, and the space at our disposal is often smaller than the finger-tip. To wear an artificial eye under such circumstances is manifestly impossible, unless we do like the surgeons of the sixteenth century, who, like Pare, had eyes made to be worn outside of the lids and held in position by a long tail-like projection which fitted over the corresponding ear.

In the past eighteen months I have operated successfully on two cases of cicatricial orbit.

*Read before St. Louis Medical Society, October 7, 1905.

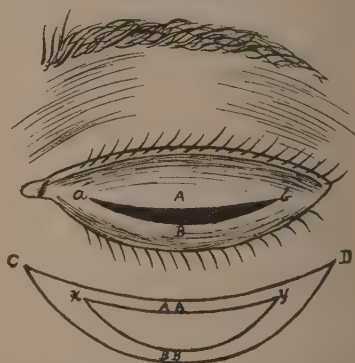
Case 1.—Miss M., aged thirty-one years, was referred to me by the late Dr. James A. Close of St. Louis. When six weeks old this lady had an inflammatory condition of the right eye. The eye burst and its contents escaped. When nine years old she began to wear an artificial eye. Six years ago the socket became contracted. She was operated by Dr. Close, who cut some cicatricial bands, after which for a time she was able to wear an eye in a misfit fashion. In June, 1904, she was no longer able to wear the eye, the space between the lids being not larger than a dime. I found the fornices practically obliterated, the lids being adherent to the orbital stump. On July 5, 1904, under chloroform anesthesia, I dissected the lids freely from the orbital tissue and applied Thiersch grafts, which were held in position by means of silver plates perforated for sutures. This operation was successful in restoring the upper cul-de-sac, but not the lower one. To restore the latter a different procedure, known as Maxwell's operation, was required. This, in short, consists in making a lower cul-de-sac of the loose skin of the lower lid, and can be understood by reference to the accompanying diagram.

After this operation the patient was able to wear an eye with comfort. A year has passed and she has no trouble.

Case 2.—Mrs. F., an elderly lady, was sent to me by Dr. M. J. Short, of Rolla, Missouri. The right eye was enucleated fifteen years ago by the late Dr. S. Pollack, of St. Louis. For two years Mrs. F. has been unable to wear an artificial eye. I found that

the upper cul-de-sac was contracted to one-half the normal size. The lower cul-de-sac was absent, the lid showing a pronounced ectropion.

On March 12, 1905, under chloroform anesthesia, I made the Maxwell operation on the lower lid. Then, at the same sitting, the upper lid was dissected to the orbital margin. A



MAXWELL'S OPERATION FOR ENLARGING THE SOCKET FOR AN ARTIFICIAL EYE*.

Incisions are made through the skin from *C* to *D*. The piece thus included is dissected from the subcutaneous tissue, except the area from *x* to *y*, which remains for anchorage. An incision, *a, b*, is made in the orbit. The lower lid is undermined. The flap is pushed beneath the lower lid. *AA* is then stitched to *A*, and *BB* to *B*.

large artificial eye was introduced. It was immediately withdrawn, covered with large Thiersch grafts and reintroduced. It was kept in place for ten days. At the end of this time it was removed for a few moments. The grafts united kindly and this lady now has a large space for an ar-

*Maxwell, P. W.: Operation to Enlarge Socket for Prothesis, *Ophthalmic Review*, May, 1903.

tificial eye which she wears with comfort.

It may interest you to know what has been done in this branch of surgery. In speaking of a similar condition, known as symblepharon (adhesion of the lid to the eyeball), Professor Czermak¹, writing in 1893, said: "If we now turn to the operative attempts at relieving this condition we enter upon a very cheerless field, rich in experiments and failures. For a very long time the surgical art has been endeavoring, and up to this time with very little success, to conquer the rebellious forces which irresistibly try to reunite the separated parts."

Since that time, instead of employing the transplantation on the lid-surface of skin flaps from the cheek or temple, or Wolfe flaps, or grafting rabbit's conjunctiva or mucous membrane from the mouth, ophthalmic surgeons have employed Thiersch grafts with a fair measure of success. Such grafts form an ideal tissue for lining the wound surfaces of eyelid and eyeball in cases of symblepharon, and they form the most suitable means of restoring space for the artificial eye in cases of cicatricial orbit.

The reports of Hotz², Morton³, May⁴, Axenfeld⁵, Lindstroem⁶, Natanson⁷, and Woodruff⁸, whose cases have been published, and my unpublished ones, show admirable results. Since the same principles apply in cicatricial orbit, I feel that such cases are now legitimate ones for surgical treatment.

Weeks⁹ has recently reported cases successfully operated by sewing Wolfe flaps to the periosteum of the orbital margin. This is a very tedious and

complicated procedure. After the flap has been anchored a suitable plate is placed in the cul-de-sac and is kept there until the time arrives for the insertion of the artificial eye.

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DISCUSSION.

Dr. John Green, Jr., thought Dr. Ball was to be congratulated on the successful outcome of the two cases reported. The Maxwell operation as described by Dr. Ball, was a distinct advance in the treatment of cicatricial orbit. Thiersch grafts were effective when applied to the upper lid, but failed to accomplish the desired result when applied to the lower lid, and here the Maxwell or some similar operation was indicated. He asked if there was any puckering of the skin inclosure of the wound. Maxwell said there was some danger of that unless the skin edges were carefully approximated.

Dr. E. H. Higbee referred to the difficulty of keeping the grafts in place, and asked regarding the use of the artificial eye in this connection.

Dr. Green thought that if there

were any cicatricial contraction of the flap the tendency would be to entropion rather than to ectropion. The incision was well behind the lower lid margin so that traction downward would tend to draw the margin of the lower lid inward and backward.

Dr. Henderson said that as he understood it, the skin flap when transferred, left a bridge at each end. What he wished to know was, was there not a raw surface left in the lower lid, which by cicatricial contraction might produce a tendency to ectropion. He asked, too, whether a reform eye would not have been more satisfactory than a shell in holding the grafts in position.

Dr. Ball, in closing, replied first to the question in regard to the puckering of the skin flap. All that is necessary, if one has too much skin flap when one had completed the work, was simply to trim it off. As to contraction, when the lower lid was transferred to the orbit there would

be a raw surface situated externally and the skin margin would then be sewed to the skin below. After a few weeks there would be no evidence of an operation other than a small scar. As to Dr. Higbee's question regarding the use of the artificial eye for holding the grafts in position, he considered this the ideal method. In his first case the grafts were comparatively small, in the second case the graft taken from the lady's arm was an inch and a half square. Each day the dressing was taken off, the lower portion of the artificial eye was lifted up and irrigation was practiced. By this method of treatment it was now possible to relieve patients who were formerly refused treatment. Replying to Dr. Henderson's question, Dr. Ball said he did not think a "reform" eye would have been more satisfactory for holding the grafts in position. He had used a very large shell, as large as could be gotten into the orbit.

THE SUBSTITUTION OF THE ORGANIC SILVER PREPARATIONS FOR SILVER NITRATE IN THE TREATMENT OF DISEASES OF THE EYE.*

By JULIUS H. GROSS, M. D., of St. Louis.

The use of nitrate of silver in the treatment of diseases of the eye was revived by Von Graefe.

He considered as indications for the use of silver nitrate (and they are the same to-day) a hyperaemia of the conjunctiva accompanied by a certain succulence. And the greater the hyperaemia and the juiciness of

the conjunctiva, other things being equal, the greater the indication for its use.

In all inflammations of the eye in which this condition is present the nitrate of silver will be found very beneficial.

He considered as a contra-indication an anaemia and dryness of the conjunctiva.

After an application of a fairly

* Read before the St. Louis Medical Society, October 7, 1905.

strong solution of silver nitrate to the conjunctival surface of the eyelids, a thin white scum or membrane covers the palpebral conjunctiva; it is composed of the superficial epithelial cells which have been killed by the coagulation of their albumen by the nitrate of silver.

This membrane is soon freed by the transudation from beneath it and washed out by the tears.

In this way the micro-organisms in the superficial layers of the conjunctiva are cast off.

Therefore it is not best to use nitrate of silver solutions late in the day for these cast off cells might be pent up by the lids during sleep and cause irritation and pain.

This caustic action which in many inflammations is of decided benefit is not possessed by the organic silver compounds.

When the classical conditions which indicate the use of nitrate of silver are present, I doubt if as much can be accomplished by any other mode of treatment.

At any rate my observations have convinced me that it cannot be accomplished by the organic silver compounds.

Last summer two hopeless cases of corneal trouble resulting from injury to and infection of the cornea came under my care.

They had been treated by an oculist and, as I ascertained, the treatment consisted of instillations of a solution of atropine sulph. grs. 4 to the ounce of water, *t. i. d.* and the use of a 25 per cent. solution of argyrol every three hours.

I have already said they were hopeless cases; they both understood this

when they came to me; and I lost no time in giving them a like prognosis. I shall separate the two cases.

In the first the cornea had begun to slough and each day pieces would come away. There was much discharge and the eye was very painful, especially at night. I dared not evert the upper lid for fear of parting the cornea, and so rupturing the globe; but by raising it gently and slightly pulling it away from the globe I could look beneath the lid and found that the conjunctiva was much inflamed and thickened.

All my training told me that I must here use a fairly strong silver nitrate solution or some other powerful germicide. Something which my past experience told me would stop the pus formation.

My choice fell on nitrate of silver solution, 3 grs. to the ounce, or 0.6 of 1 per cent.

I do not hesitate to state that I prefer silver nitrate to corrosive sublimate for the eye.

It was used somewhat freely, daily; the atropine and argyrol were also continued about as they had been used. After two applications of the nitrate of silver the discharge had much diminished and the eye was less painful. The cornea was too far gone and could not be saved; however the sloughing process had received a check.

Those of you who have watched cases of this kind have observed the great resistance which the inner layer of the cornea, *i. e.*, Descemet's membrane, offers. Now, in this case, a very interesting condition appeared. The corneal tissue sloughed away, leaving Descemet's membrane intact

and quite transparent, and through it the brown iris and dark pupil could be seen. Not only that, but the patient, too, noticed that he could see well again, and began to doubt my very pessimistic words as to the final outcome. Of course, it was only a matter of time when Descemet's membrane, too, gave way; but I am inclined to think that without the nitrate of silver applications it would have melted away much sooner.

The second case is a parallel to the first, except that the cornea was not quite so far gone. The treatment has been the same as in the first case, and this was continued, but I supplemented silver nitrate solution grs. 3 to the ounce, used carefully but not stingily. The palpebral conjunctiva was much swollen; there was a considerable discharge of pus. Eye quite painful. The cornea was still resistant, and I made a determined effort to save it. To provide additional nourishment to sustain the cornea through the critical stage I scarified the conjunctiva of the upper lid almost daily. Under this treatment the swelling of the conjunctiva soon disappeared, and the eye did well, fully as well as could be expected. The cornea did not slough, and some sight remained.

It is not my aim to disparage the value of the organic silver preparations, but simply to call attention to the fact that some practitioners are using them in preference to nitrate of silver where the latter would be much the better remedy.

It is my opinion that the reason many physicians do not like to use silver nitrate is because strong solutions cause pain. And I believe that as a rule they are used too strong.

I think that many text-books advise the use of solutions of nitrate of silver which are too strong.

Occasionally, too, we find a patient who does not tolerate silver nitrate solutions as well as other treatment.

As a rule, a solution of nitrate of silver should not be used stronger than 1 per cent., even in severe cases which require heroic treatment.

It should not be applied to the cornea when the cornea is not diseased.

After using the silver nitrate solution, the conjunctival sac ought always to be flushed out with some bland solution.

In the treatment of blenorrhœa neonatorum and blenorrhœa adultorum, *i. e.*, the conjunctivitis occurring in the newly born and gonorrhœal conjunctivitis of adults, the new silver salts have, I think, earned their best reputation.

Here, too, I should not feel safe and satisfied, if after the first stage, that of infiltration, the treatment consisted only of the use of any one of the new silver preparations to the exclusion of the nitrate of silver.

In the *Medical News* of October 10, 1903, Dr. Weeks says: "The danger to vision from gonorrhœal infection of the conjunctiva is indeed slight when vigorous treatment with strong solutions of argyrol is instituted." A strong statement.

I should like to ask those present if they fear a gonorrhœal infection any less since argyrol and the other new preparations of silver have come into use?

DISCUSSION.

Dr. J. C. Buckwalter had had some experience with the organic silver salts. He had recently had brought

to his office an infant four weeks old who was suffering from ophthalmia neonatorum (gonorrhœal), and had been treated three weeks with strong solutions of argyrol. A bacteriological examination was made, and the gonococci were found, but the condition of the eyes did not improve under treatment. Dr. Buckwalter had immediately stopped the argyrol, and substituted a two per cent solution of silver nitrate, applied with a pledget of cotton, first cocainizing the conjunctiva with a two per cent. solution of cocaine, and immediately after using the silver nitrate solution, instilling a salt solution to counteract the irritating effect of the silver nitrate solution. The after-treatment consisted of a saturated solution of chloretone, used by the attendant at home, and cold applications renewed every two hours. There was no involvement of the cornea in this case. In nose and throat affections he had tried the organic silver salts, but they were not satisfactory. They were not irritating, but they did not accomplish the desired results.

Dr. John Green, Jr., referring to the teaching of the text-books regarding the strength of silver nitrate solutions, believed it to be in need of revision. Almost without exception they advise the use of one per cent. and two per cent. solutions in ordinary conjunctivitis, a procedure not only useless but often harmful. The main object was to induce a moderate astringent reaction, and a solution of one or two grains to the ounce was sufficiently strong. The transient discomfort soon passed away, even without neutralization with salt solution. Another point was the value of silver

nitrate in florid succulent conjunctivitis. The organic salts did not meet the conditions in these cases as well as the silver nitrate. In ophthalmia neonatorum, argyrol enabled the physician to cope with conditions better than silver nitrate. In one case of gonococcal ophthalmia in an infant that had come to his attention; the right cornea was the seat of a large central ulcer apparently on the verge of perforation. The other cornea showed a paracentral ulcer. A thirty per cent. solution of argyrol was used every two hours in addition to free irrigation with normal saline solution, and (later) potassium permanganate 1-2000. The outcome was all that could be desired. The deeper ulcer healed without perforation, and the other paracentral ulcer was prevented from spreading, and, in healing, left enough clear tissue to warrant the belief that an optical iridectomy would not have to be resorted to. He had observed a brownish discoloration of the base of an ulcer as the result of the free use of argyrol, which, however, passed away with the healing of the ulcer.

Dr. Henderson said that when protargol came out he had looked forward to it with a great deal of pleasure owing to the irritation caused by nitrate of silver. He believed he got as good results with it in most cases. When argyrol was introduced he used that, and found it a great advantage in most cases. Argyrol was practically non-irritating. A ten per cent. solution of protargol often caused pain. Recently he had used a ten per cent. solution of protargol in a case of ophthalmia neonatorum, and every time he put the solution in the eye

the child would cry and struggle violently. He substituted a twenty-five per cent. solution of argyrol, which the child did not seem to mind at all, and when he could apply the solution beneath the lid when the child was asleep, it would not awake. That was a considerable advantage. When a mother or nurse was expected to apply an irritating solution, one was at a considerable disadvantage. Dr. Buckwalter had spoken of using cocaine before applying the silver nitrate. Dr. Henderson did not believe in using cocaine in any eye case where there was a corneal lesion present or where there was danger of corneal lesion, owing to the drying influence on the cornea. Where there was a corneal lesion it would nearly always result in an increase in the area of infiltration. For this reason he nearly always used holocain, which not only does not dry out the corneal epithelium, but is also slightly antiseptic.

Dr. Green said that unquestionably cocaine in watery solution had a desiccating effect on the corneal epithelium, and it appeared to facilitate the spread of a corneal ulcer. He had found that an oily solution of the alkaloid of cocaine did not possess this disadvantage, and he did not hesitate to use it (combined with atropine, when necessary), in the presence of corneal ulcers.

Dr. Ball did not see any need for everting the lids for the purpose of treatment, although it is necessary for an examination. Simply separate the lids from the globe and permit the remedy to flow from the canthus into the conjunctiva. Argyrol, he thought, had come to stay. He had secured

the first lot of it that reached the city, before any of the wholesale druggists had it. It would not give the desired result in all cases, but it had given him most excellent service. Since beginning its use he could not recall a case in which he had used protargol.

Dr. Henderson said Dr. Gross had asked one question which he believed no one had answered except indirectly, and that was, did they fear gonorrhoeal infection any less since argyrol and other similar preparations had come into use. The speaker said he feared it much less.

Dr. Green seconded what Dr. Henderson had said. He believed argyrol had saved many eyes that would have gone under with the older treatment.

Dr. Gross, in closing, stated that he did not wish to disparage the organic silver compounds. They were of value, but when men made statements like that of Dr. Week, who said, "The danger to vision from gonorrhoeal infection of the conjunctiva is, indeed, slight when vigorous treatment with strong solutions of argyrol is instituted," he thought this was, indeed, going too far. In gonorrhoeal conjunctivitis (blenorhoea neonatorum or ophthalmia neonatorum and blenorhoea adutorum), in the first stages there were not the ideal and classical indications for silver nitrate; instead, there was a dry conjunctiva, so that a very caustic treatment of any kind would be injurious in the first stages. The question in the speaker's mind was, whether argyrol and protargol solutions were any more beneficial in that stage than a solution of boric acid or of alum, or any of those bland solutions. But in the second and third stages, where

the conjunctiva was no longer dry, then he would feel safer if he could use such a time-tried remedy as nitrate of silver. The organic silver compounds penetrated deeply into the tissues, but he thought most of the trouble was on the surface, and the slightly caustic action of the silver nitrate was very beneficial, and in using the organic silver compounds he would feel much safer to use the silver nitrate in addition than to rely

solely upon the organic silver compounds. The nitrate of silver had been used ever since it was revived by von Graefe more than fifty years ago, and it was the best remedy known for severe inflammations of the eye, especially when there were present the conditions already named as indicating its use. There were still some things to be proven about the new silver compounds.

LIMITATION OF REST IN THE TREATMENT OF FRACTURES.*

BY ROBT. M. FUNKHOUSER, M. D., St. Louis.

There is hardly a lesion that requires more practical and skillful knowledge which the physician is called upon to treat, than that of fracture. Aside from the etiology and diagnosis, there are some points that are paramount in the treatment, but which are frequently overlooked or neglected. The surgeon at an early period of his studies assumes almost as a postulate that the fracture must be reduced, the sooner the better, and the ends maintained in apposition until union has been secured. But his surgical judgment and skill will be expected to do more—to foresee and avoid certain complications. Too many in the past have been content with reduction of the fracture and the application of a splint, permanent and irremovable, and to trust to nature to do the rest, not appreciating the fact that during the progress of repair the fracture may become displaced from various causes, and consequently the impairment of motion

and usefulness of the limb may follow; in some cases due to faulty methods and means of reduction, or to failure to keep the fracture reduced; sometimes due to the action of the patient, either consciously or otherwise; more frequently to the action of the muscles; in other cases due to adhesions, especially where the fracture is in the neighborhood of or connected with a joint.

The danger of deformity or impairment of movement, or both, following fracture, is greater than is commonly appreciated. Pott and Colles appreciated the fractures known by their respective names, but not only Pott but others writing rather recently of fracture of the lower end of the fibula, direct that in treating these cases of fracture of the fibula with injury about the ankle joint, "the splints ought not to be used for more than a *month* or *five weeks* (?) for fear of ankylosis, and at the end of that time the surgeon should begin to make passive movements, so as to secure the mobility of the joint." The

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surgeon of to-day would hardly wait so long!

Some of these factors can be eliminated or controlled in a great measure by greater attention to detail, particularly by inspecting frequently the fracture, thus being enabled to detect and correct any deviation if present, and to begin massage and movement at a much earlier period than is commonly practiced. We must not forget that, even though the limb may appear to be straight, the ends of the bone may not be in apposition, and there is no one landmark that can absolutely guide us; as, for instance, in fracture of the leg, the line formed by the anterior superior spine to the middle of the patella and ball of the great toe. There is no proof of accurate apposition of the ends of the fracture, as the toe is easily changed and the ends of fracture moved. Nay, not even the skiagrams always tell the truth. The x-rays are rather deceiving, and a number of skiagrams should be taken at different angles and in different planes, as the volume, dimensions and form of the projected shadows vary with the distance of the object from the plate, and also with the distance of the object from the light, any obliquity of light, unless allowed for, giving rise to serious errors. Cases have been reported where the x-ray did not even disclose a fracture nor deviation of the fragment where the fracture existed. We must not lose sight of the fact that, although the direction of the limb be maintained, the performance of its functions depends more particularly on the preservation of non-atrophied muscles, mobility of articulation, or

solidity of ligaments and absence of tearing.

The object of the paper is not to offer anything new, perhaps, in the treatment of fracture, nor to discuss in detail each separate fracture, the different splints and means of treatment. Various kinds of splints or apparatus may be used. The methods and means will depend largely upon the fracture and the experience of each individual surgeon. I desire to direct attention to the treatment of fracture by massage and early mobilization *with removable splints*.

The treatment of fractures by massage and mobilization, if not originated by Lucas Championniere, was elaborated particularly by him and by others. The limb was merely supported by a flannel bandage or by sandbags also, or by trapping, no splints being used. With the addition of removable splints, it is an ideal method. It is applicable in all simple fractures to a greater or lesser extent, especially in fractures and dislocations near the ankle and elbow joints, for when there is a fracture near a joint, there is also a sprain, and adhesions are more apt to occur.

In cases where the patient is advanced in years, or there is present a dyscrasia, and it is feared non-union may follow, judgment will have to be particularly exercised in its application. In the use of passive movement in recent fracture, the principal object to remember is that it should be preceded by gentle massage, which has a soothing effect upon the irritable muscles, so that quite extensive movements can be made without spasm and contraction.

The treatment may be divided into passive, external and internal, and active. Under external is classed massage, which may be commenced as early as the next day after reduction of the fracture, and should be of the most gentle character. At the same time splints, removable, *should be* used to assist in support of fracture during the passive motion, which may be practiced from five to fifteen minutes for several days, the object being to allay spasm and aid in the absorption of fluid, etc. After the swelling has been reduced, the movements of the tendons and ligaments should be begun from the fourth to the tenth day by moving, for instance, the toes, separately or together, the foot, or the fingers and hand in like manner, the object being to prevent adhesions at seat of or over the fracture or in the neighborhood of the joint. Of course, it goes *without* saying that the fractured limb is supported by proper splints. After the second week passive motion, complete massage and voluntary motion may be employed for a quarter of an hour, more or less. The flexion of the limb is quite important, particularly in rheumatic and arthritic cases.

The above is but a brief outline, and can be changed to meet the needs of individual cases. Voluntary motion should not be allowed until after the second week, as it may prove harmful rather than helpful. By this treatment time is saved and the union of the fragments facilitated. Complete rest can be assured excepting during massage, which relieves the pain and alleviates the muscular spasm. It aids in the rapid absorption of the effused fluid. It tends to

prevent stiffness by hindering or lessening the formation of adhesions. It prevents the wasting of the muscles and assists in the preservation of the nutrition of the limb. It hastens very materially the time when the limb can be used.

DISCUSSION.

| Dr. Edward Borek said he was specially interested in the treatment of fractures and had a wide experience in that line. Some twenty years ago when the Missouri State Medical Society met in St. Louis he had presented his method of treating Colles' fracture. His method was, and still is, to use a single splint, leaving thumb and fingers free. He looked at them every day, and as soon as possible removed the bandage, had the hand laid upon a table and washed with soap and water (you cannot hurt the fracture!), redressing it again and allowing the patient to use the fingers, even permitting him to use a spoon or fork. Dr. Borek had borne a good deal of criticism and sarcasm because of his method, as other members of the society had been used to extending the fingers, using a splint an inch beyond the fingers and leaving it on at least forty days. He had done this in his early days, but every case had stiff fingers. After adopting this plan in the treatment of Colles' fracture, though he had treated a good many cases, not a single one turned out badly, and all could use the fingers. Dr. Moore, of Oldchester, never used a splint at all, merely a bracelet dressing, and he had good success. The speaker had never had a law suit as a result of his work, but had been threatened with one. The patient was an old lady. He had dressed the

hand and did not see her again. She had gone to another surgeon, who immediately took the splint off, put on another extending an inch beyond the fingers and kept it there. A few months later the patient had again called on him and said. "Look at those stiff fingers." Dr. Borch said, "Who did it?" to which the lady had replied, "I have been told you did it, that you dressed it wrong in the first place, and if I had the money I would hire a lawyer to sue you." The doctor replied that if that was her only reason for not bringing suit he would write out a check with which she could pay a lawyer to bring suit against him. He hoped some time to bring down some of the patients he had treated in this way. One was a dislocation of the elbow joint and a Colles' fracture. The patient was a little boy, and he would defy anybody to-day to tell that those bones had ever been fractured. He was gratified to hear the views advocated by Dr. Funkhouser.

Dr. J. H. Tanquary thought a great many of the laity still remembered the old method of treating fractures. When a physician was called upon to treat a fracture he thought it should be put up in a stiff dressing and need not be looked at again for four weeks; then the splint could be taken off and the case was cured. Because of this former custom he had experienced some difficulty in getting his patients to return for proper treatment and inspection. Dr. Funkhouser's plan of massage was probably the best that could be carried out. It had been his habit to open up the arm more for inspection than anything else. He rarely permitted it to remain more than four

or five days without removing the splint and washing the parts, having the fragments of bone held in position. He had also been in the habit of using massage. The union between the bones should be disturbed as little as possible. The more disturbance the more callus would be thrown out. But very gentle massage was not objectionable. There was no reason why these dressings should not be opened up the second, third or fourth day. There was no danger of displacement of the fragments if done carefully, and if there were a tendency to displacement, it could thus be detected and corrected. Many deformities following Colles' fracture were due to neglect or carelessness. In regard to passive motions of the joints, he did not think it likely that any one would have ankylosis if, after the joint had rested twelve or fifteen days, it should be opened up and passive motion practiced. He did not consider it necessary to introduce passive motion before that time.

Dr. A. W. Fleming, referring particularly to Colles' and to Pott's fractures, said the first point to be considered was that not enough attention was given to a thorough reduction. If thoroughly reduced, the matter of a splint was not important. He objected to the term "Colles' fracture," for Colles did not describe one-tenth of these so-called Colles' fractures. No one man has covered the conditions. Each type must be treated as an individual fracture. Stevens, of Philadelphia, taught that, once reduced, a simple little splint, one-half inch wide and four or five inches long, placed on the back of the wrist, was all that was necessary. Of course,

there were cases in which pieces of bone were broken off, or tendons ruptured, that would require something more than this simple dressing. But ordinarily this little splint and two strips of adhesive plaster, one about the wrist and the other about the hand, was all that was required. He had been much pleased with Dr. Funkhouser's remarks in regard to massage and passive motion. No elbow should be allowed to go over a week without the dressing being taken off and the limb moved a little, and then brought back into the position in which it was originally placed. The same was equally true of fracture of the ankle. Pott, he believed, had a small conception of what fracture of the ankle really was. By a sprain fracture was meant one in which the tips of the malleoli were torn off and the foot dislocated, either outward or inward. Those fractures occurring two or three inches up on the fibula, which Pott described, gave no trouble. There was no reason why these fractures should not be called by some anatomical name, for it was unreasonable to assume that any one man knew all about the subject. His experience in the work was that the textbooks all gave these fractures too much time to heal, the humerus, for instance, being given four or five weeks. Four or five days could be cut off the period named, for all these fractures give a much better result. The atrophy that resulted made it all the more important to use massage. In children and young adults the limb might be safely left three or four weeks and no atrophy result, but in old people, with a lithemic condition, the ecchymosed blood must be gotten

out of the part as soon as possible, and in the large majority of cases one not only lessened the pain, but got a better-shaped limb in consequence.

Dr. Wm. H. Stauffer asked Dr. Funkhouser to give his experience in the treatment of patellar fractures and the method he applied in such cases. The speaker had a personal experience in this kind of fracture, and wished to know the doctor's method. Four years ago he had fractured the knee cap of his good limb. The treatment was so eminently satisfactory that good bony union resulted, and completely restored the limb.

Dr. Funkhouser, in closing, said that in the past, too much time had been allowed to elapse before motion of the limb was begun, and many bad results had followed, which otherwise could have been avoided. He still liked to do honor to the Nestors of the profession, and there was no question that Colles did more to elucidate the type of fracture which bore his name than any man preceding him. Dr. Funkhouser simply used the word Colles as a generic term including all fractures at the lower end of the radius. Pott certainly did credit to the profession when he described fracture in the neighborhood of the ankle joint. Here there was not only a fracture, but a sprain to deal with. In Pott's fracture the internal and sometimes the external lateral ligaments were torn, and there might also be a sliver of bone detached from the malleolus. But the points of importance were: Bear in mind the use of removable splints; massage, of course, after the fracture is perfectly reduced, and passive motion. He had not attempted to enter upon the different

methods of treatment, but the fact had been borne in upon him that the limb must be used sooner than had been customary, and to do this it was necessary to resort to passive motion. He tried to make the distinction between passive motion and voluntary motion. The points he tried to bring out applied chiefly to simple fractures. As to operative treatment, he would be inclined to conservatism—to hesitate before resorting to that method, unless there was some special necessity for cutting down upon the fragments and wiring them. It had been suggested that in the treatment of Colles' fracture, if anything, there should be an overreduction. Even if this method was resorted to, and the fracture overcorrected, yet there was no reason why massage should not be used. By the ambulatory treatment, most brilliant results had been obtained. There were cases where it might be dangerous to keep patients

flat on their backs, and the ambulatory method was the proper course to pursue. But these cases were antithetical to those outlined as simple fracture. As to fracture of the patella, he doubted if it was wise in all cases to cut down and wire the fragments. Much depended upon the kind of fracture, whether stellate or not. The treatment would depend largely upon the patient. They were usually unwilling to have the patella cut down upon and wired. The great majority of patients prefer to take their chances without such a procedure. If one succeeded in getting a fibrous union, he was to be congratulated, especially if the patient had good motion. The object of the paper had not been to take up any special means or method of treatment, but merely to emphasize the necessity for massage, passive motion and removable splints.

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EDITORIAL.

AIMS OF THE MEDICAL SOCIETY.

In 1778 the physicians of Litchfield county, Conn., met and organized a medical society. The reasons for forming the organization were "that they should lay a foundation for unanimity and friendship which is essential to the dignity and usefulness of the profession." They also agreed to meet once in three months; also that they would assist each other without reserve in all cases where counsel is necessary, and that all who have been in regular practice one year might become members; also that they would communicate their discoveries in science and medicine and open up a correspondence with the medical societies in the neighboring states and in Europe.

A more practical set of resolutions than these cannot be framed by any society, and the spirit which prompted these, our forefathers in medicine, must be pertinent in our societies of to-

day if we expect to gain the best from them.

It must be the aim of the society to promote "unanimity and friendship, which is essential to the dignity and usefulness of the profession." Unfortunately the friendship which many of the profession have for each other is not of the Damon and Pythian type. Unanimity is lacking in so many instances, "unity, peace and concord" too often is wanting, sympathy is a foreign element. This is largely due to the fact that the members of the profession are not acquainted with each other, and, if known at all, only through rumors emanating from some disgruntled person. Above all else, friendship and unanimity should exist among physicians and this can be brought about by becoming acquainted one with the other. What better place can there be to meet each other than the society? It is there we can meet pro-

professionally and socially, and when we know our fellow practitioners better, we will have a higher opinion of them and learn to know them for their real worth.

Again no busy practitioner can keep abreast with the vast strides medicine is taking, no matter if he does fill in his spare moments by reading. To such a physician a good live society furnishes the means by which he can keep in touch, not only with his fellow practitioners, but with the progress of the world. The interchange of ideas, the "rubbing up" against men who are the acknowledged leaders, all help even the good physician to become a better one, and will teach the self-reliant man that there are others equally good if not better.

It should be the aim of the society to make its meetings as instructive as possible, and this can be done in no better way than by the exhibition of interesting cases. Often to see the disease is to learn the diagnosis, for seeing is better than reading a description. This exhibition feature should be made prominent, especially in the county society, for few even in the city have time to attend the clinics.

It should be the effort of the society to establish a better relation between the laity and the profession. It is a lamentable fact that the profession does not receive the respect from the public that it merits, considering what has been done to promote public welfare. This perhaps is due to that class of self-styled practitioners who spend their time imposing their zealous ignorance on an over-credulous people and fighting rational medi-

cine and sanitary science. It is due to their persistent efforts that the public has been blinded to the great work done and the wonderful results obtained benefiting mankind.

It is the duty of the physician to educate the public along all lines, scientific medicine as well as advancement in sanitary science. The average person, if he will but stop to think, can discern between a quack and the reputable physician. Some societies, at one or more of their meetings, have some physician give an address on some subject of interest. In this way much can be done to teach the people that through the aid of sanitary science the longevity of our race has increased from twenty-two years to thirty-eight years in the last century. "That while small-pox, causing 10 per cent. of all deaths, claimed 400,000 victims in Europe in the year 1800, less than 400 deaths occurred from the same disease in the same length of time 100 years later." When the people learn this and how other plagues which formerly swept over the land almost depopulating large areas, are now reduced to a minimum, they will begin to realize the debt of gratitude they owe to our self-sacrificing profession and they will be more willing to render us the credit due our efforts.

The well organized society should agitate rational legislation so that none but the qualified should be permitted to practice medicine. Laws should be enacted against such "grafters as the blatant quack, the ignorant pretender, the soothsayer, the clairvoyant and the subject of that mild form of mental disease which is characterized by a persistent attempt to

prove that what is is not." Suitable sanitation laws should be agitated, in fact anything that concern the public weal.

The society must meet, study and solve many of the important sociological and economical problems. It must furnish a stimulus for all that is high and good. It should be a mine rich in everything for the uplifting of humanity, morally, physically, intellectually and spiritually, and it should "cherish the memories, the virtues, the achievements of a class which has benefited the world as no other has, and of which we may feel proud that we are members."

S. S. S.

BEHRING'S STRANGE PERFORMANCE.

Professor V. Behring, the putative discoverer and once the patentee of the antitoxin of diphtheria, improved the occasion of the meeting of the Congress on Tuberculosis in Paris last month to make a premature announcement of a new remedy for tuberculosis. A curious thing regarding this was that, although the Tuberculosis Congress was in session at the time, the announcement was made to a reporter of the *Matin*, a daily paper of Paris, and repeated in an interview with a representative of the *Figaro*, and only then was the alleged discovery related to the members of the congress in a paper read at the last session of that assembly. Another strange thing was the announcement that the remedy will not be available until next August, and that even then its composition and mode of preparation will be kept secret. This, however, was in accordance with the prin-

ciple, of which Behring has always been a conspicuous advocate, that a discoverer is entitled to the pecuniary rewards of his discovery.

It is unpleasant to see a man of Behring's scientific attainments controlled by such a mercenary spirit. But that is, of course, no argument against the possibility of his remedy being efficacious in both the prevention and cure of tuberculosis. In the paper read on the last day of the Tuberculosis Congress, he said he had discovered the existence of a curative principle entirely different from antitoxin in its mode of action. It is this principle, he said, which plays the chief role in the immunity conferred by this "bovovaccine." The method is based upon the impregnation of the living cells of the organism with a substance derived from the tuberculosis virus residing in the yellow tubercle. This substance he has named T. C. The preparation is said to be in the form of a powder. The reports of the paper contained in the press dispatches are not very illuminating, and while it is possible that the scientific reports may be more intelligible, it is not probable that Behring has described his method in any but the most general terms. The fact of the value of some of Behring's previous therapeutic achievements offsets in a measure the inherent improbability of the discovery of a cure for tuberculosis. No one, at least no one entitled to speak with authority, denies at the present day the efficacy of antitoxin in the treatment of diphtheria. One hears less of his preventive inoculations against tuberculosis in cattle, but the method was adjudged of sufficient merit to entitle him to the

Nobel prize of \$40,000 in 1901. Two years later he announced the extension of this prophylactic measure to the human infant, but this does not seem to have won acceptance by the medical profession, at least not so universally as his first great discovery. The discussion of the efficacy of this new method is, however, only in the academic stage, as yet, for the remedy will not be procurable for nearly a year, and until it has been extensively tried it will be impossible to determine its value.

The bold proclamation which Behring makes of his determination to keep his remedy secret so that he may reap the pecuniary rewards of his therapeutic discovery is reprehensible, but it is in keeping with his previous acts. It will be remembered that in 1898 he secured a patent in the United States on the diphtheria antitoxin, and the chemists who made it for him served notice on physicians and manufacturers that anyone using any but the patented Behring antitoxin would be prosecuted. The attempt to create a monopoly of this life-saving remedy failed, but through no fault of the greedy scientist. At that time there was an outburst of indignation in the press, both lay and medical, not only in this country but in Germany and throughout the world, which would have given pause to anyone with a thinner skin than Behring, but it apparently did not disturb him in the least.

If the remedy now announced should prove to be all that its discoverer claims for it as a certain preventive and cure of tuberculosis, it will be interesting to note its reception by those who have conscientious objec-

tions to the use of secret remedies, or nostrums, whatever therapeutic value they be shown empirically to possess.

If they consent to employ the curative, but unethical, remedy, they must do violence to their principles; if they refuse, their patients will settle the question for themselves with deplorable disregard of the ethics of the case. But this is purely speculative, and by the way, for we confess to much scepticism as to the validity of V. Behring's claims, and we fear T. C. will follow T. R. in the long procession of cures that fail to cure.—*Medical Record.*

THE ORIGIN OF CANCER.

The pathogenesis of cancer must still be acknowledged as belonging to the unsolved problems in medicine. Some perhaps may claim that this statement should be modified in the light of recent investigations, nevertheless, it may be quite truthfully said up to the present time that no satisfactory answer has been returned to the question as to whether cancers and other neoplasms arise through a modification of the formative process or whether they are the outcome of an inflammation due to the intrusion and growth of specific microorganisms or to other external irritants. In other words, is cancer dependent upon an intrinsic or an extrinsic cause? The growing tendency of late years to ascribe most pathological processes to a germ infection, has rather overshadowed the older theories, but it still remains for the microbists to furnish convincing proof of the truth of their claims than they have thus far done.

In the genesis of neoplasms, as

well as of all other organic structures, there are two factors to be considered, namely, the cells from which they are derived and the force which regulates this cellular activity. In a healthy body, cell division proceeds until the organ is fully developed, and then the process continues merely as a reparative one. There is a restriction to growth within certain bounds, but the guiding force may be affected by pathological conditions which inhibit its restricting influences and the cells continue to multiply in a lawless manner. We do not know the nature of this mysterious force, although some ascribed it directly to the nervous system. An interesting, rather than convincing, article, in the form of a plea for this theory, has lately been published by R. A. Hodgson (*Medical Press*, August 9, 1905). He calls cancer a nerve disease with local manifestations, and claims that any specifically shaped bodies connected with it are the result rather than the cause of the disease. Moreover, he believes that the greater frequency of cancer in the later years of life is due to the fact that at this time the body has less reserve nerve force, all the tissues in his opinion being controlled by nervous influences, whether histologists are able to demonstrate the presence in them of nerve elements or not. The increase of cancer at the present time, he thinks, may also be explained by the greater demands now made on the brain and nervous system in general, which, having a greatly diminished reserve store of energy, is less able to resist long-continued irritation.

According to Hodgson, the true pathology of the condition will be

cleared up only when we are able to obtain accurate chemical analyses of healthy nerve structures, and can compare them both qualitatively and quantitatively with those taken from the neighborhood of the disease.

The author's reasoning is ingenious, but is hardly logical enough to clear up the question. The "nervous wear and tear," which he and many others are ever ready to accuse of numerous ailments with which man becomes afflicted, is not so universally prevalent among all classes of the population as we are led to believe, and those classes which might perhaps be placed in this category are not more frequently the subject of cancerous diseases than any others. The idea that some inherent force in the body initiates and governs the growth of neoplastic formations, is fraught with many elements of plausibility. But to assert that it is a force generated in the nervous system, would amount to the making of a claim which is not based on demonstrated facts. There is present in all living bodies a vital principle or force, still unknown and undefined as regards its character and laws, which governs growth and reproduction generally without the medium of such gross structures as may be represented by the nervous tissues, and it is to disturbances of this that we may have to attribute some of the hitherto unclassified pathological processes, cancer among them.—*Medical Record*.

POTASSIUM IODIDE IN THE TREATMENT OF SYPHILIS.

It seems that a sort of campaign has been instituted against the use of potassium iodide in the treatment of

syphilis. There are those who say that it is noxious and sometimes dangerous, and, moreover, that it is ineffectual. They would restrict antisyphilitic medication to the employment of mercury. So great an impression have these persons made that M. Pautrier finds himself constrained to champion the maligned iodide in the *Presse Medicale* for September 9th, and it must be said that he does it effectively.

The iodide is accused of giving rise to such grave conditions as oedema of the glottis and interstitial nephritis, which occasionally prove fatal, to say nothing of its effects on the skin. It is only very exceptionally, says M. Pautrier, that fatal oedema of the glottis has been caused by the drug, or that there is encountered an idiosyncrasy that precludes its safe and pleasant enjoyment. As for nephritis, there is pre existing renal trouble in the cases in which the iodide damages the kidneys, and this can be ascertained before one decides whether or not to prescribe it. It is true, also, that the drug is apt to disorder the digestion, but this effect can almost always be prevented by varying the mode of its administration. Sometimes it causes great irritation of the eyes, but only when reacting, when eliminated in the tears, in such a manner as to give rise to the formation of a very irritating iodo-mercurial compound.

As to the charge that potassium iodide is ineffectual, accumulated clinical evidence makes it sure that many of the manifestations of syphilis yield promptly to it when mercury alone acts but very slowly, if at all. Especially beneficent is its action on the

arteries, which are prone to grave changes as the result of syphilis. Potassium iodide should by no means be given up in the treatment of that disease, though it may quite properly be rated as subordinate to mercury.—*New York Medical Journal*.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The annual meeting of the Mississippi Valley Medical Association was held at Indianapolis, Ind., October 10th, 11th, and 12th. The attendance was large and the program excellent.

The address of the retiring president, Dr. Bransford Lewis of St. Louis, on "The Unrecognized Responsibilities of the Press and State in Conserving Health," can be profitably read by the entire medical profession. It is one of the clearest and best statements of the subject that has appeared.

The address of Dr. W. D. Haggard of Nashville, Tenn., on "The Present Status of the Surgery of the Stomach," is well worthy of mention.

The German House, where the meetings were held, was well adapted for the purpose. The entertainments were numerous and of high order, and altogether the thirty-first annual meeting may be considered most successful.

The following officers were elected for the ensuing year: President, Dr. J. Henry Carstens of Detroit, Mich.; first vice-president, Dr. Joseph Rilus Eastman of Indianapolis, Ind.; secretary, Dr. Henry Enos Tuley of Louisville, Ky. (re-elected); treasurer, Dr. S. C. Stanton of Chicago (re-elected). Hot Springs, Ark.,

was selected as the place for the annual meeting in 1906.

COMMENDABLE VIGILANCE.

The members of Cass County Medical Society are making strong efforts to rid the county of illegal practitioners. As a result of the work done recently, one man was arrested and fined for practicing medicine without a license and is now serving a term in the county jail. Another man was arrested for practicing medicine illegally. His trial has been twice continued and is now set for the November term of court.

A NEW STATE JOURNAL.

The *Journal of the New Mexico Medical Association* is one of the latest state journals to be established. The second number was issued September 15th. Dr. G. W. Harrison, of Albuquerque, is editor, and Dr. G. S. McLandress is associate editor. It is issued quarterly. We congratulate the New Mexico Medical Association upon its enterprise, and wish all success for the publication and for the state association.

ERRATUM.

In the discussion of Dr. Lewis's paper, published in our October issue, Dr. H. J. Scherck was made to say the following: "In cases of gonorrhoea, an infected catheter is often introduced into an aseptic ureter, because we know that we frequently have cases of violent cystitis with positively no urethritis." The last word should have been "ureteritis."

DR. K. WERNICKE.

Medical men generally will regret the death of the German neurologist, Dr. K. Wernicke. At the age of twenty-six he originated the present conception of aphasia and its pathology. His research in the anatomy of the nervous system enabled him in 1882 to locate brain tumors.

Few have accomplished more for the benefit of students of medicine than Wernicke. While other scientists preceded him in histology, he was the first to bring the surgeon in close touch with a field which had been occupied by neurologists.

CORRESPONDENCE.

Editor JOURNAL MISSOURI STATE MEDICAL ASSOCIATION:

I should like to see a copy of that new law regarding the sale of poisonous drugs. Has it been published in your journal? If not, then you might favor some of your readers by printing an extract giving the essentials regarding the same.

Yours truly,

F. DAMOUR.

[In response to the above request we print the act in full.—Ed.]

AN ACT TO REGULATE THE SALE OF COCAINE AND OF PREPARATIONS CONTAINING COCAINE.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section 1. It shall not be lawful for any druggist or other person to retail or sell or to give away any cocaine, hydrochlorate or other salts of or any compound of cocaine, or preparation containing cocaine, or

any salts of or any compound thereof excepting upon the written prescription of a licensed physician or licensed dentist, licensed under the laws of this state, which prescription shall only be filled once. Provided, that the provisions of this section shall not apply to sales in the usual quantities at wholesale by any manufacturer or wholesale dealer when such manufacturer or wholesale dealer shall have affixed to the box, bottle or package containing such cocaine, hydrochlorate or other salt or compound of cocaine or preparation containing cocaine, a label specifically setting forth the proportion of cocaine contained in any preparation.

Sec. 2. Every person who shall be found guilty of violation of the provision of this act, shall, for the first offense, be fined a sum not less than ten dollars, nor more than fifty dollars, and for each subsequent offense not less than fifty dollars; nor more than two hundred dollars, or imprisonment in the county jail not

exceeding ninety days, or either or both in the discretion of the court.

Approved April 9, 1905.

THE OFFICIAL ROSTER.

In the December issue of the JOURNAL the roster members will be published. It is a matter of great importance that the list of the members of the Association and their post office addresses be absolutely correct. In no other way can the JOURNAL reach the members promptly. In order to make the list correct, the secretary of the Association must depend upon the secretaries of the county societies for the accuracy of his list.

A list of the members of each county society, as now on file in the office of the secretary, has been forwarded to the secretary of the county society. It is earnestly requested that this list be carefully revised and promptly returned. Attention is directed to the spelling of the names of the members and to post office addresses. Accuracy in these details will obviate delay in receipt of the JOURNAL.

COUNTY SOCIETY NOTES.

BUCHANAN COUNTY MEDICAL SOCIETY.

Dr. P. I. Leonard, President.

Dr. Charles Wood Fassett, Secretary.

The meeting of October 7th was called to order by the president, Dr. P. I. Leonard. After approving the minutes of the previous meeting, Dr. J. B. Riley was elected to membership in the society. Resolutions on the death of Dr. P. J. Kirchner and Dr. J. H. Stringfellow were adopted and ordered sent to their respective families.

The paper of the evening was read by Dr. W. J. McGill, his subject being "Constipation." The various etiological factors were considered, especial stress being placed on irregular eating, improper food and irregular habits. The fact was brought out that, while constipation may exist for months with fair health, sooner or later troublesome symptoms follow, such as hemorrhoids, ulceration of the colon, enteritis, occlusion and neuralgia of the sacral nerves. At times the fecal mass may become channeled, and diarrhoea occur, and persist till the cause, viz., the fecal mass, is removed. These cases often present fever, and may resemble typhoid.

In the treatment of constipation too much reliance has been placed on cathartics and injections, and too little attention given to the establishment of regular habits in eating, exercising, sleeping and attending to the calls of nature. The non-medical treatment as recommended by Gant was particularly rec-

ommended. This consists of divulsion of the sphincter and removal of any mechanical obstruction. Copious injections of warm water in the beginning of the treatment, and the application of electricity to the abdomen and rectum. This, coupled with correct habits of eating, exercising and attending to the calls of nature, will usually prove efficient. In long-standing cases it may be necessary to resort to cutting the hypertrophied sphincter or doing a valvotomy. For the latter procedure the author favors the clamp operation as suggested and practiced by Pennington, of Chicago. This consists of placing the clamp on the valve and allowing it to separate by necrosis.

The paper elicited a general discussion. Among those taking part were Drs. O. B. Campbell, Jacob Geiger, S. F. Carpenter, J. B. Reynolds, T. E. Potter, A. L. Grey and W. T. Elam.

CLARENCE GOOD, Reporter.

CALLAWAY COUNTY MEDICAL SOCIETY.

Dr. J. F. Harrison, President.

Dr. Martin Yates, Secretary.

The Callaway County Medical Society met in regular session at Fulton on October 12th, eight members being present.

Dr. Crews, of Williamsburg, read a paper on "Dysentery." In the treatment of this disease the essayist advocated preliminary evacuation of the bowels, followed by large doses of ipecac, preceded by an opiate. He advised very strict attention to diet,

and that the patient be kept in a recumbent position. A general discussion followed the reading of the paper, and the doctor's views were in the main endorsed by the members.

Dr. Nichols, of Hams Prairie, read a paper on the "Pathology and Treatment of Typhoid Fever." This paper elicited considerable discussion from the members, and the essayist was congratulated upon the manner in which he presented the subject.

The next meeting of the society will be held at State Hospital No. 1, as the guest of the superintendent, Dr. Williams.

MARTIN M. YATES, Secretary.

CHARITON COUNTY MEDICAL SOCIETY.

Dr. H. C. Tatum, President.

Dr. C. A. Jennings, Secretary.

The regular quarterly meeting of the Chariton County Medical Society was held in Salisbury on September 28th. The president, Dr. Tatum, presided. Minutes of the previous meeting were read and approved.

Dr. C. A. Jennings, of Salisbury, read a paper on "La Grippe." The paper aroused the interest of all the members present, and was thoroughly enjoyed.

Dr. Tatum presented an interesting clinic. The patient, a man aged forty-eight, was operated on some months ago for carcinoma of the testicles. Both testicles and the penis were removed. The operation was successful, and the wound healed nicely. The man now exhibits symptoms of a melancholic character.

The next meeting will be held in Salisbury at 8 P. M., October 19th.

W. L. BAKER, Reporter.

CLAY COUNTY MEDICAL SOCIETY.

Dr. L. J. Jones, President.

Dr. F. H. Matthews, Secretary.

Meetings of the Clay County Medical Society were held in Liberty, on August 28th, and on September 25th. There was a large attendance at each of these meetings. Typhoid fever and malarial fever were discussed respectively, and much of interest and profit was brought out. Splendid interest in scientific work is shown and good fellowship exists in the society to a remarkable degree.

In October this society will meet with the Tri-County (Clay, Platte and Clinton) Society at Smithville.

F. H. MATTHEWS, Secretary.

CLINTON COUNTY MEDICAL SOCIETY.

Dr. John Sturgis, President.

Dr. E. A. Colley, Secretary.

The regular monthly meeting of Clinton County Medical Society was held in Plattsburg, on October 4th, with a fair attendance of the members. No scientific program had been prepared for the meeting, and, therefore, the evening was devoted to reports of cases.

Dr. R. W. Rea reported a case of cancer of the tongue, which had been diagnosed as syphilis by several pathologists. Drs. Winn, Sturgis, Steckman and Colley reported similar cases which they had observed in practice.

The society voted to change the date of meeting from the first Wednesday in the month to the first Tuesday. It was found that this change would enable a number of physicians to attend the meetings who could not do so otherwise.

The committee on program for the next meeting consists of Drs. John Sturgis, W. J. Winn, P. M. Steckman.

The next meeting will be held at Plattsburg on November 7th.

E. A. COLLEY, Secretary.

CALDWELL COUNTY MEDICAL SOCIETY.

Dr. R. K. Dodge, President.

Dr. Tinsley Brown, Secretary.

The Caldwell County Medical Society met at Kingston, on October 4th, the president, Dr. R. R. Dodge, presiding, Members present: R. K. Dodge, Tinsley Brown, B. F. Carr, R. L. Mount, J. O. Wilkerson, W. S. Shouse, G. W. Goins, C. O. Dewey, W. T. Lindley, L. J. Eads and H. De Lemeter.

Dr. B. F. Carr presented a patient, a man fifty-seven years of age, who had suffered from an abscess in the left side of the chest. The case was examined by the members and the cause and treatment of the condition thoroughly discussed.

Dr. W. T. Lindley read an interesting paper in which he described the care and treatment of surgical cases in the home of the patient, or outside of hospitals, and held the view that nearly all surgical cases could be cared for and operations performed in the home with perfect safety if proper care was given patients. The discussion following the reading of this paper showed that a variety of opinions were entertained by the members.

Dr. B. F. Carr read a paper entitled "Some Diseases of Children and their Causes."

Dr. Dodge reported a case in which

labor came on at the seventh month after the woman had carried a dead fetus for some time.

Dr. Dewey reported a case of criminal abortion in which the placenta had been retained for some time.

The special committee on fee bill was continued until the next meeting. Essayists appointed for the next meeting: Drs. H. De Lemeter, J. O. Wilkerson, W. S. Shouse and C. O. Dewey.

The next meeting will be held in Cowgill, January 3d.

TINSLEY BROWN, Reporter.

COOPER COUNTY MEDICAL SOCIETY.

Dr. P. L. Hurt, President.

Dr. John R. Lionberger, Secretary.

The Cooper County Medical Society met in regular monthly session at the Woodman Hall in Boonville, on October 3d, 1905. The president, Dr. P. L. Hurt, called the meeting to order.

Members present: Drs. P. L. Hurt, F. R. Smiley, R. L. Evans, John R. Lionberger, J. T. Taylor, E. M. Alleé, O. W. Cochran, J. S. Parish, G. A. Russell and W. E. Evans.

Dr. R. S. Holman, having removed to St. Louis, his position as secretary-treasurer was, upon vote of the society, declared vacant, and Dr. John R. Lionberger was elected to the office of secretary-treasurer. The minutes of the former meeting were then read and approved.

Dr. P. L. Hurt presented a case of chronic catarrh of the common bile duct, and asked the members of the society to suggest a line of treatment. A discussion followed, in which all members present joined, and a gen-

eral line of treatment in such cases was presented and outlined.

Dr. E. M. Allee presented a case of chronic interstitial nephritis of six years' duration, in which a general anasarca was present. The ordinary remedies failed to diminish the œdema, but the case had been greatly benefited by the use of a mixture composed of oxydendron arboreum, sambucus canadensis, and uirginia scilla. A general discussion followed, the disease and its treatment being the subjects, and Dr. Allee was asked to report on the case at the next meeting.

The committee on fees, not being ready to report, was given until the next meeting to hand in their report.

The name of Dr. W. H. Reynolds, of Lupus, was presented by Dr. Cochran for membership in the Cooper County Medical Society, and, upon the entire vote of members present, Dr. Reynolds was received as a member.

There being no further business, the society adjourned to meet Tuesday, November 7th.

JOHN R. LIONBERGER, Sec'y.

JACKSON COUNTY MEDICAL SOCIETY.

Dr. Robert T. Sloan, President.

Dr. Max Goldman, Secretary.

The Jackson County Medical Society met in regular session Thursday evening, September 28th, 1905. The meeting was well attended and an excellent program was rendered.

Dr. Howard Hill read a paper entitled "The Repair of the Female Perinæum, with Special Reference to its Surgical Anatomy," and Dr. J. P. Kanoky presented a case of "Eczema Seborrhoicum."

Dr. Hill exhibited a number of interesting sketches of the anatomical structure of the female perinæum, as well as of the technic practiced by him in the repair of recent and long-standing lacerations. The procedure was minutely and instructively described, and proved to be a simplified method of separating the mucous membrane and scar tissue over an area included between the retracted ends of the torn levator ani muscle chiefly, thus exposing them, then bringing up these ends by means of two or three strong sutures, and approximating them carefully; the flap that remains is then disposed of in any manner that may suggest itself as most feasible in each individual case. The perinæum, it is claimed by Dr. Hill, is thus actually restored, hence its function is again properly performed and reflex symptoms disappear.

The paper was discussed by Dr. N. O. Harrelson, who, at the same time, presented a resume of a method of repairing the perinæum adopted by him and to some extent different from that of Dr. Hill. He stated that in many old lacerations it may be impossible to find by dissection the ends of the levator ani because of atrophy of the muscle, and therefore his custom in all cases is to include between the sutures as much denuded tissue from each side as possible, thus lifting up the retracted perineal structures, which by their union give a firm wedge of tissue in place of the former relaxed outlet. The new perineal body performs the function of the original one; it matters little whether it be muscular or fascial.

Others taking part in the discussion

were: Drs. A. E. Hertzler, J. C. Martin, J. M. Frankenburger, Maggie McCrear, F. H. Brunig, E. E. Hubbard, W. H. Coffey, R. E. Castelow, C. B. Hardin and Fannie J. Henry. Dr. Hill closed the discussion.

An unusually interesting case of "Eczema Soborrhoeicum," of slightly over two years' standing, in a boy five years of age, was exhibited by Dr. J. P. Kanoky. The remarkable features of the case were several: (1) It began on the right and posterior surface of the trunk over two years ago; (2) the head became involved one year later; (3) lesion covered an extensive area, including the entire scalp, the forehead, the eyebrows, the left side of the face close to the median line, the middle surface of the chest in front and behind, and the palmar surface of both hands; (4) even in the early stages the eyes were attacked by a phlyctenular conjunctivitis, causing pain and photophobia; (5) the general condition of the child is comparatively good; (6) the disease has responded unusually well to treatment by sulphur and resorcin locally and general tonics; (7) the case presents almost every phase of the condition known and described as eczema seborrhoeicum.

Dr. Kanoky presented beautifully colored photographs of the original lesions of the case, and in treating of same dwelt especially upon its etiology and differential diagnosis, considering particularly psoriasis, pityriasis rosea, and syphilis.

Dr. Halsey M. Lyle opened the discussion by considering at length the differential diagnosis from a number of similar lesions; excluding, however, all of them by recalling the

characteristic signs of each of the diseases with which the case presented might be confused. Among those mentioned by Dr. Lyle were tinea favosa, circinata, tricophytina, pityriasis rosea, and psoriasis.

Others taking part in the discussion were Drs. G. W. Davis, William Frick, Franklin E. Murphy and Jos. Lichtenberg. Dr. Kanoky closed the discussion.

Dr. Lichtenberg reported hurriedly a case of meningeal infection occurring in a four-year-old boy who was injured by falling on an ordinary atomizer, the tube entering the ear, causing considerable pain, of which, however, the child was soon relieved, and on the next day seemed entirely well, and without any suggestive signs or symptoms. The following day there developed a typical cerebral meningitis, and the patient died in twenty-four hours. At the autopsy there was found a fracture at the base of the skull, and a lesion at the temporo-sphenoidal lobe of the brain, indicating that the instrument upon which the child fell had entered and infected the meningeal and cerebral tissues.

Owing to the late hour the case reported was not discussed.

MAX GOLDMAN, M. D.,
Secretary.

HOLT COUNTY MEDICAL SOCIETY.

Dr. C. L. Evans, President.
Dr. J. F. Chandler, Secretary.

The Holt County Medical Society met in regular session at Bigelow on October 5th. Members present: Drs. F. E. Bullock, J. F. Chandler, T. O. Davis, C. L. Evans, M. S. Gray, J. M.

Davis, F. E. Hogan, E. Kaltenbach, E. M. Miller, B. T. Quigley and Ira Williams.

After transacting the other business of the society, the scientific part of the program (consisting of three papers) was taken up.

The first paper, "Puerperal Infection," by Dr. Evans, from its many phases, brought forth much discussion, as did Dr. E. M. Miller's paper on "Gall Stones." Dr. Miller recently returned from Chicago, where he had taken post-graduate work and had witnessed many operations for removal of gall stones.

Dr. Quigley's subject was "Gonorrhœa." The doctor presented the subject in a most interesting manner, not only from a scientific standpoint, but from a business standpoint as well.

The next meeting will be held at Maitland, on the first Thursday in January, 1906.

J. F. CHANDLER, Reporter.

LACLEDE COUNTY MEDICAL SOCIETY.

Dr. J. M. Billings, President.

Dr. J. A. McComb, Secretary.

Laclede County Medical Society met in Commercial Club rooms at Lebanon, Mo., October 9, 1905. Dr. Billings, president, in the chair.

There were present Drs. Billings, McComb, Perkins, Pinckard, Pritchett, Herbert and J. A. McComb of Lebanon. Drs. Lockwood and Jacobs of Conway; Drs. Carleton, Pool and Monday of Stoutland, Dr. Lindsay of Orla, Dr. Atchley, of Atchley and Dr. Sumner of Niangua.

Minutes of last meeting read, corrected and approved.

Dr. Sumner of Niangua read a paper on "Treatment of Incipient Tuberculosis of the Lung." The paper was well received and the writer very highly complimented.

The discussion of the paper showed a lack of confidence on the part of the ordinary physician, in his ability to do for the consumptive all that the late writers have indicated might and ought to be done.

On motion it was requested that each member of the society report the names of the tubercular cases under his treatment, so that the society may then offer some useful advice to the patient and the community.

Following this there were reports and discussion of unusual obstetrical cases. Drs. Pinckard and Lindsay were appointed to read papers on the subject of pneumonia at the next regular meeting, and Drs. Pritchett and Herbert were appointed to open the discussion on the papers.

At the January meeting there will be an afternoon and evening session.

On motion, adjourned till the second Monday in January, 1906.

J. A. McComb, Repore r.

LIVINGSTON COUNTY MEDICAL SOCIETY.

Dr. David Gordon, President.

Dr. J. F. Cherrington, Secretary.

Livingston County Medical Society met in regular session at Chillicothe on October 11th, the president, Dr. Gordon in the chair. After routine business had been disposed of, a resolution was introduced to change the time of meeting from the second Wednesday quarterly to the second Wednesday monthly. The resolution

was laid over for action at the January meeting.

Dr. Cherrington gave a talk on "Juglandin," describing its derivation, dosage, indications and therapeutic action. The subject was discussed generally by the members.

Dr. L. F. Carlyle of Wheeling presented a patient suffering from pleuritic and splenic difficulties and invited the doctors to examine the case, make a diagnosis and suggest an outline of treatment.

The Chillicothe members of the society are considering the feasibility of establishing a society in Chillicothe to be composed of the Chillicothe physicians and conducted upon the plan of a post-graduate school. October 19th was named as the date for holding the first meeting looking toward the consummation of this object.

J. F. CHERRINGTON, Secretary.

MACON COUNTY MEDICAL SOCIETY.

Dr. W. H. Miller, President.

Dr. C. W. Reagan, Secretary.

Macon County Medical Society convened in the office of Dr. C. W. Reagan, on August 8th, Dr. F. W. Allen, of Barryville, in the chair. Members present: L. M. Thompson, B. J. Milam, E. S. Smith, A. B. Miller, Macon; S. L. Burton, Caseyville; F. W. Allen, Barryville; B. F. Bunch, Bloomington; C. W. Smith, Keota; L. O. Mason, Bevier. After the routine business had been transacted, Dr. S. Burton reported a case of appendicitis terminating in recovery by spontaneous rupture in the bowel after one month of illness.

After the discussion of this case, the society adjourned until the afternoon.

At the afternoon session Dr. Miller reported a case of obstruction of the bowels complicating an attack of cholera morbus. Operation was performed and the patient made a good recovery. The report of this case is published in full below.

Dr. Miller also reported a case of obstruction of the bowels coming on forty-eight hours after confinement. The patient declined operative procedures for relief and death resulted on the third day. The discussion on these reports was very interesting and participated in by all the members.

Dr. E. S. Smith reported a case of Friedreich's ataxia. Dr. Smith had anticipated presenting the patient to the society, but this was made impossible on account of an acute attack of colitis.

Dr. Smith presented a patient, a coal miner who had received an injury over the external condyle of the humerus, which was followed by impairment of movement of the arm and partial paralysis of the muscles of the forearm.

Resolutions of sympathy were wired to the president, Dr. W. H. Miller, who was sick at Boulder, Colo.

On motion, adjourned.

F. W. ALLEN, Secretary.

MEETING OF SEPTEMBER 12TH.

The meeting was called to order by the president, Dr. Miller. Members present: W. H. Miller, B. J. Milam, E. S. Smith, L. M. Thompson, E. C. Salyer, G. F. Brewington, L. O. Mason, J. P. Foster, W. V. Yates, F. W. Allen, C. W. Reagan, B. F.

Bunch, W. A. Welch, J. N. Southern, A. B. Miller, F. L. Trippier and L. O. Newton.

On invitation of Dr. Smith the morning session was held at the County Court House, where a number of interesting cases were presented, among them the case of Friedreich's ataxia reported at the last meeting. At the afternoon session Dr. Milam reported a case of rupture of the penis from direct violence. Dr. T. O. Mason presented a case of hypertrophy of the spleen due to chronic malaria and gave an outline of the treatment he had instituted.

Dr. J. N. Southern presented a patient, a young man, who for several years had been afflicted with petimal and now seems to be developing symptoms of grand-mal.

These reports and cases were very generally discussed by the members present and the meeting altogether was most interesting and instructive.

Dr. Miller's paper was as follows:

A CASE OF OBSTRUCTION OF BOWELS COMPLICATING CHOLERA MORBUS.

Miss L—, aged twenty-three, had an attack of peritonitis two years ago. During the night of July 8, 1905, she had an attack of cholera morbus. Vomited and purged all night, bowels moving six times; large, offensive, watery stools. On the morning of the 9th during a severe attack of vomiting, the patient was seized with colicky pain near and to the right of the umbilicus, after which the diarrhoea ceased, but the pain and vomiting continued. Temperature 98°, no distension. Morphia

was given hypodermically and mild intestinal antiseptics, gave her a fairly comfortable day. In the evening intestinal and antiseptics with anodynes were used and she passed a comfortable night. On the morning of the 10th vomiting and colicky pain continued. The vomiting appeared to follow peristalsis. There was considerable distension in the region of the umbilicus and seemed to be confined to the small intestines.

Obstruction being suspected, high enemas were given but seemed to show a negative result and only aggravated the pain and vomiting. The patient located the seat of obstruction with remarkable accuracy. Operation was decided upon, but was delayed twenty-four hours until the patient's mother could arrive. Temperature 98.5°, pulse 90. Diagnosis was based on the sudden cessation of the diarrhoea, colicky pain followed each time by vomiting and distension of the small bowel without fever.

At 10:30 on the morning of the 11th, assisted by Drs. W. H. Miller, L. M. Thompson and C. W. Reagan, the abdomen was opened by making a four-inch median incision through the right rectus muscle. On opening the peritoneum about three pints of very bloody serum escaped. The small bowel presented in the wound enormously distended (as large as the colon) and its vessels were much engorged. The bowel was very dark in color, dry and granular in appearance and covered here and there with dark spots that looked almost gangrenous. Recent adhesions had formed, involving about five feet of the small intestine bowel; the obstruction was occasioned by an old band of ad-

hesions under which a loop of intestine had slipped in the act of vomiting. After liberating the bowel it was found so enormously distended that after reasonable effort to return it had failed it was thought wise to empty the bowel before returning it. A half inch incision was made in the bowel and a large quantity of foul smelling fluid withdrawn. The wound in the intestine was sutured after Halstead's method, the gut carefully cleansed and returned. The usual toilet of the peritoneum was made, omentum replaced and the abdomen closed by three layers of sutures. Temperature at 6 P. M., 99.5° F., pulse 120, strong and regular; no vomiting. On the 12th the temperature was normal, pulse 100. The afternoon of the 12th the cholera morbus seemed to have disappeared, the bowels moving three times, and the patient begged for food. Her temperature never was above normal after the first day and her recovery was rapid and uneventful. July 24th, two weeks after operation the patient was dismissed.

Some features of this case are worthy of note. We almost waited too long for the arrival of the patient. Extensive adhesions had formed and yet there had been no fever or other inflammatory symptoms. The incision into the gut and the entering of the gut not only relieved the tension of the enormously distended bowel but it lessened shock, removed danger of rupture and the shock that would have ensued from the presence and pressure of the distended viscera had it been returned in that condition. The patient was so unusually well and comfortable after the operation that we thought that the thorough empty-

ing of the bowel contributed to this end.

RALLS COUNTY MEDICAL SOCIETY.

Dr. W. S. Harwood, President.

Dr. T. J. Downing, Secretary.

Ralls County Medical Society met in regular session at Center on October 12th. By invitation of the society, Dr. N. A. Foster, a very old and now retired physician, resident of Center, occupied the chair. After routine business had been disposed of, the officers for the ensuing year were elected, as follows: President, Dr. W. S. Harwood, of Rensselaer; secretary, Dr. T. J. Downing, of New London.

The scientific program included a paper, entitled "Diphtheria," by Dr. W. S. Hendrix, and for general discussion the subject was "Digitalis." Dr. Hendrix's paper brought forth an interesting discussion, and the discussion on "Digitalis" was general, and participated in by all the members.

T. J. DOWNING, Secretary.

WAYNE COUNTY MEDICAL SOCIETY.

Dr. J. P. Sebastian, President.

Dr. S. J. Owens, Secretary.

Wayne County Medical Society met in regular session at Mill Spring on September 29th. In the absence of the president, Dr. Bailey, of Leeper, was chosen to preside over the meeting. The minutes of the last meeting were read and approved. Dr. Owens, presented a patient, a child twelve years old, who had fallen on a stone in December of last year. Following the injury there was an

acute inflammatory process, involving the periosteum. Dr. Owens saw the patient about ten days after the injury. The child was anesthetized and an incision was made over the most prominent point and extended well down on the bone. No pus being found, the wound was tightly packed with iodoform gauze. On the following day the dressing was removed, and a little pus was seen. Instructions were given the parents for dressing the wound, and the case was dismissed. The wound healed, suppuration ceased, but a thickening of the bone was noticeable. Some months later a sinus opened, which now extends into the tibia. The case was examined by the members, and the opinion expressed that an operation should be performed.

Dr. Owens reported a case. A woman ten days after confinement was seized with a chill and high fever. When first seen by the doctor the pulse registered 120 beats, temperature 104.5 degrees F.; cheeks were flushed, and respiration very rapid. Septic infection was suspected, and the uterus examined and found full of pus. The uterus was irrigated and swabbed with iodine and carbolic acid mixture and a gauze drain placed in position. The patient improved under this treatment, but is still under observation.

Dr. Toney reported a case of a child who was seized with chills and fever, followed by paralysis of one arm. Antimalarial treatment was instituted, together with salicylate of soda. Under this treatment the child made a rapid and complete recovery.

Dr. Bailey expressed the opinion that the paralysis was caused by neu-

ritis. Dr. Toney thought it was of central origin, probably caused by serous effusion, which was quickly absorbed.

Dr. Toney reported a case of non-union of a fracture of the femur of twenty months' standing in a woman eighty years of age. Dr. Gilmer in the discussion, thought a resection was inadvisable on account of the age of the patient. Dr. Toney thought an operation would have a favorable outcome.

At a previous meeting Dr. S. A. Bates promised to prepare a paper on intussusception and read it at this meeting. He said, however, that he had been unable to fulfill his promise because of the press of other business, and would have the paper ready for a subsequent meeting. The society took up the subject for general discussion, during the course of which Dr. Bates said he believed intussusception was much more common than is generally supposed, and thought it frequently occurred in a complication of other diseases. He stated that he had seen sixty-five cases, and there had been but one death in this number. Dr. Toney and others thought it probable there had been an error in diagnosis in some of the cases which Dr. Bates classed as intussusception. Dr. Bates said the treatment is simple, his method being to give copious enemata and manipulate the abdomen to force the gut back, and confine the patient to a strictly liquid diet. Dr. Bates did not say that he had ever operated on a case.

Pneumonia and diseases of children was the subject selected for discussion at the next meeting.

Piedmont was chosen as the place

for the next meeting, which will be held on November 10th.

R. J. OWENS, Secretary.

WORTH COUNTY MEDICAL SOCIETY.

Dr. O. P. M. Mills, President.

Dr. J. K. Phipps, Secretary.

The Worth County Medical Society met at Grant City on September 20th, with Dr. O. P. M. Mills, the president, in the chair.

Minutes of previous meetings were read and approved.

Dr. H. P. Mills of Sheridan, read a most interesting paper on "Prophylaxis and Early Diagnosis of Tuberculosis."

Dr. W. A. Robertson of Allendale, read a paper on "Dysentery," in which he gave in detail the manner in which he had treated the fifty cases that came under his observation during the past summer. Both of these papers were freely discussed in an informal way by all the members present.

The next regular meeting will be held at Grant City on the second Wednesday in October.

J. K. PHIPPS, Secretary.

COLE COUNTY MEDICAL SOCIETY.

Dr. J. P. North, President.

Dr. G. Ettmueller, Secretary.

At the regular quarterly meeting of the Cole County Medical Society, held October 12th, Dr. Thorpe reported about the meetings of the Missouri Medical Association and the National Association, both of which he attended. Three new members were enrolled: Dr. J. A. Hill, Dr.

McAlister of Jefferson City, and Dr. Yates of Wardsville.

Resolutions were adopted extending the sympathy of the society to Dr. J. B. Martin, Sr., of Russellville, a member of the society, on account of the death of Dr. J. B. Martin, Jr., also a member.

G. ETTMUELLER, Secretary.

JEFFERSON COUNTY MEDICAL SOCIETY.

Dr. W. H. Farrar, President.

Dr. H. Will Elders, Secretary.

Jefferson County Medical Society met in regular session on September 26th, the president, Dr. W. H. Farrar, in the chair. A large number of members were present. Several very interesting papers were read. All the members took part in the discussion. H. WILL ELDERS, Secretary.

KNOX COUNTY MEDICAL SOCIETY.

The regular meeting of Knox County Medical Society was held on October 2d. In the absence of the president, Dr. Myers occupied the chair. The minutes of the previous meeting were read and approved.

Dr. Jurgens read a paper on the "Pathology of Typhoid Fever." Discussion by Drs. Brown, Northcutt and St. John.

Dr. St. John read a paper on the "Disorders of the Menopause." Dr. Brown and Dr. Northcutt discussed the paper very freely.

Dr. J. R. Northcutt read a paper on "Eclampsia," which was very interesting and brought forth considerable discussion from Drs. Brown, St. John, Leeman and Jurgens.

The following resolution was adopted, extending the sympathy of the members to Dr. L. S. Brown on the loss of his eldest son.

"Resolved, That we, the members of the Knox County Medical Association, extend to our honored president, Dr. L. S. Brown, our sincere sympathy

in the death of his son, Dr. William Brown, of Chicago, and that a copy of these resolutions be spread upon the records of this society."

A committee was appointed to assign subjects for papers to be read at the next meeting and appoint essayists. H. J. JURGENS, Secretary.

NEWS ITEMS.

Andrew County Medical Society is making special efforts to have an unusually interesting meeting at the next session. The secretary, Dr. C. O. Jeffries, promises to forward a complete report of this meeting.

"Dr." J. T. Davis of Harrisonville, Cass county, was arrested at Pleasant Hill on October 3d for practicing medicine without a license. He was unable to pay the fine of fifty dollars and costs and is now serving his sentence in the county jail.

"Dr." A. S. McLeary, a "rectal specialist" of Kansas City, was arrested some weeks ago charged with illegal practice of medicine. His trial has been twice continued and is now set for the November term of court.

Dr. W. S. Harwood, of Rensselaer, was elected president of Ralls County Medical Society at the last meeting.

Dr. R. S. Holman, formerly secretary of Cooper County Medical Society, Boonville, has removed to St. Louis, where he has entered into active practice. He is located at 3951 Delmar avenue.

Dr. Harold W. Jones, of St. Louis, was recently appointed surgeon in the army service and is now at the army medical school, Washington, D. C.

Dr. John R. Lionberger, of Boonville, has been elected secretary of Cooper County Medical Society.

Dr. W. L. Gillmor has removed from Winona to Kansas City. He is now located at 300 Westport avenue in that city.

The Harrison County Medical Society will meet at Bethany on November 14th. An extensive program is being arranged for this meeting. Several interesting papers have been promised and a number of cases will be presented. The members are looking forward to this meeting with much interest, and a report will be forwarded to the JOURNAL for publication in the December number.

At the annual meeting of the Gasconade-Maries-Osage County Medical Society, held at Bland on October 26th, the following programme was carried out:

Clinic, Dr. W. R. Ferrell.

Clinic, Dr. J. D. Seba.
 Appendicitis, Dr. W. S. Allee.
 Pneumonia, Dr. J. J. Ferrell.
 The Menopause, Dr. J. Englebrecht.
 Physiological Action of the Typhoid
 Gland, Dr. Jno. D. Seba.

Remarks on the Insidiousness of
 Typhoid Fever, Dr. J. W. Niewig.

A full report of the meeting will be
 published in the next issue of the
 JOURNAL.

The United States Civil Service
 Commission announces an examina-
 tion on November 22, 1905, at the
 places mentioned below, to secure
 eligibles from which to make certifi-
 cation to fill a vacancy in the position
 of physician (male), at \$1,000 per
 annum, San Juan Indian Agency, N.
 Mex.; another at \$900 per annum, at
 Fort Bidwell, Cal., and similar vacan-
 cies as they may occur in the Indian
 service.

As the commission has experienced
 considerable difficulty in securing
 eligibles for this position, but five
 having been secured as the result of
 the examination held on September
 13, 1905, qualified persons are urged
 to enter this examination.

The examination will consist of the
 subjects mentioned below, weighted
 as indicated:

Subjects.	Weights.
1. Letter-writing (the subject matter on a topic relative to the practice of medicine)	5
2. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy)	15
3. Chemistry, materia medica, and therapeutics (elementary questions in inorganic and or-	

ganic chemistry; the physiologic
 action and therapeutic uses and
 doses of drugs) 10 |

4. Surgery and surgical path-
 ology (general surgery, surgical
 diagnosis; the pathology of sur-
 gical diseases) 20 |

5. General pathology and prac-
 tice (the symptomatology, etiolog-
 y, diagnosis, pathology and
 treatment of disease) 25 |

6. Bacteriology and hygiene
 (bacteriologic methods, especial-
 ly those relating to diagnosis;
 the application of hygienic meth-
 ods in prophylaxis and treat-
 ment) 10 |

7. Obstetrics and gynecology
 (the general practice of obstet-
 rics; diseases of women, their
 pathology, diagnosis, symptoms
 and treatment, medical and sur-
 gical) 15 |

Total

100
 Seven hours will be allowed for this
 examination. Age limit, 25 to 55
 years on the date of the examination.

This examination is open to all male
 citizens of the United States who com-
 ply with the requirements.

Applicants should at once apply
 either to the United States Civil Ser-
 vice Commission, Washington, D. C.,
 or to the secretary of the board of ex-
 aminers at any of the places mentioned
 below, for application form 1312. No
 application will be accepted unless
 properly executed and filed with the
 commission at Washington. In ap-
 plying for this examination the exact
 title, "Physician (male) Indian Ser-
 vice," should be used in the applica-
 tion.

As examination papers are shipped

direct from the commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Application blanks may be secured by applying at the postoffice in the following places: Jefferson City, Kansas City, Kirksville, Springfield, St. Louis.

The physicians of Chillicothe, Mo., held a meeting on October 19th, and organized a medical society, to be known as the "Chillicothe Post Graduate Medical Society."

The purposes of the society are set forth in Article II of the constitution and by-laws for county societies prepared by the American Medical Association, and practically the same laws, with some additions or eliminations, to govern this body.

Meetings will be held on the first and third Thursdays of each month at 8 P. M. from April to October, and at 7:30 P. M. from October to April.

A program will be made up by the committee for the entire year. Each

member will decide upon what branch or branches he will lecture on during the year, and the committee will assign the date of such lectures and arrange the time allowed to each subject and the "quiz" or discussion thereon.

In this way it is hoped to create not only a friendly interest in advanced subjects of the profession, but to build up the county society and establish it forever.

The following officers were chosen for the ensuing year: President, J. F. Cherrington; vice-president, B. M. Stevens; secretary and treasurer, H. M. Grace.

The next meeting of the society will be November 2d.

A movement was also placed on foot to form a hospital association and build and maintain a non-sectarian charitable hospital in Chillicothe, the funds to be raised by the sale of 5,000 shares of stock at \$10.00 per share, to be fully paid, non-assessable and never profit sharing.

The unusually heavy rains and very bad roads have combined to prevent the members of Platte County Medical Society from holding a meeting since August. It is hoped the November meeting will be well attended.

BOOK REVIEWS.

A Compend of Histology. By Henry Erdmann Radasch, M. S., M. D., Associate in Histology and Embryology in the Jefferson Medical College; formerly Fellow in Chemistry in the University of Iowa (1895-6); formerly Lecturer on

Chemistry and Director of the Chemical Laboratories in the College of Physicians and Surgeons, Keokuk, Iowa (1897-8). With 98 illustrations. Philadelphia: P. Blakiston's Son & Co. \$1.00.

This volume occupies a place inter-

mediate between the existing compends and text-books. The matter is clear, concise, and up to date. Embryology has been touched upon only as it bears directly upon histology. The chapter on technic is as complete as necessary for routine work. Connective tissues have been grouped in a simple, characteristic manner, and the blood cells have been arranged in a simple and readily-comprehended form. The chapter on the placenta and umbilical cord has been written in detail. The work is well illustrated.

Transactions of the Iowa State Medical Society, Vol. xxiii., Fifty-third Annual Session, 1905. Des Moines, Iowa.

This twenty-third volume contains a full report of the transactions and programs rendered at the Fifty-third Annual Session of the State Association. The papers read are of especial interest, and give evidence of the intensely original, practical character of the western practitioner. This volume should be of interest to every practitioner in the state of Iowa on account of the up-to-date papers and discussion of the same.

Manual of Operative Surgery. By John Fairbairn Binnie, A. M., C. M. (Aberdeen), Professor of Surgery, Kansas State University, Kansas City; Fellow of the American Surgical Association; Member De La Societe Internationale De Chirurgie. Second edition, revised and enlarged, with 567 illustrations, a number of which are printed in colors. \$3.00. Philadelphia: P. Blakiston's Son & Co.

The approval of this Manual of Operative Surgery by the profession is

shown by the fact that in six months the entire first edition was sold, necessitating a revision and a second edition within a period of nine months. This second edition has been carefully revised. A description of the operations on the mastoid has been added. Notice has been taken of recent advances in cerebral localization. Short articles on the duodenum and on tuberculous peritonitis have been written. Other sections have been revised so as to keep abreast with the advance of surgery. This second revision makes this Manual of Operative Surgery one of the most complete ever given to the profession and is worthy the commendation it has received.

The Principles and Practice of Medicine, Designed for the Use of Practitioners and Students of Medicine. By William Osler, M. D., Fellow of the Royal Society; Fellow of the Royal College of Physicians, London; Honorary Professor of Medicine, Johns Hopkins University, Baltimore, etc. Sixth edition thoroughly revised from new plates. New York and London: D. Appleton & Co.

In this new sixth edition the entire work has been thoroughly revised, many chapters have been rewritten and much new matter has been added. Special attention has been given to new points in treatment. So many alterations have been made that it is in many respects a new book. It is a reflex of current knowledge in the symptomatology and treatment of disease, based upon the literature and upon the author's experience in the medical clinic of the Johns Hopkins Hospital. The warm support of the

general practitioner throughout the country shows this work to be probably the most popular as well as the most helpful to student and physician which has ever been given to the profession.

The Diagnostics of Internal Medicine, a Clinical Treatise upon the Recognized Principles of Medical Diagnosis. Prepared for the use of Students and Practitioners of Medicine. By Glentworth Reeve Butler, Sc.D., M.D., Chief of the Second Medical Division, Methodist Episcopal Hospital; Attending Physician in the Brooklyn Hospital; Consulting Physician to the Bushwick Central Hospital; Fellow of the New York Academy of Medicine; Fellow of the Society of Science, Letters and Art (London), etc. With five colored plates and two hundred and eighty-eight illustrations and charts in the text. Second revised edition. \$6.00. New York and London: D. Appleton & Co.

Although this work has been before the profession but four years its genuine worth is evidenced by the fact that more than fifty thousand copies have been printed. The present edition is up-to-date. About one hundred more pages have been added, together with forty additional illustrations. To keep pace with the progress of medical science many articles have been rewritten and one entire new section on diseases of the mind has been added. No change with arrangement or classification has been made and the work still remains pre-eminently a clinical work, dividing itself naturally into two parts: first, a study of symptoms and their

indication; second, a study of diseases and their characteristics. By the choice of material and method of arrangement all that is essential for making a diagnosis is contained in this volume. Everything has been subordinated to facilitate in a practical way the making of a thorough examination and correct diagnosis.

International Clinics, Volume III, Fifteenth Series. \$2.00. Philadelphia: J. B. Lippincott & Co.

This third volume of the International Clinics is complete and up to date. It contains the results of the research work and practical experience of the best clinicians in this country and abroad. The article on Radiotherapy is extremely interesting and practical. The Symptomatic Treatment of Tuberculosis by Noble T. Barnes, M. D., is very instructive. The article on Serumtherapy by John W. Wainwright, M. D., is especially interesting in these days of antitoxins. This article gives the *modus operandi* and the results obtained in its use in the various contagious diseases. The section on medicine contains articles on Mucous Colic, Injuries and Lesions following the toxic use of Alcohol, and Addison's Disease, by McPhedran, Crothers, Robinson, Wells and Michels. The section on surgery contains the following articles: Fractures of the Patella, Paraffin Injections by the "Cold Process," Ethyl Chloride, and the Additional Diagnosis of Tumors of the Right Hypochondrium, by Wight, Braekhaert, Luke and Tuffier. Other interesting articles are: Acute Anterior Poliomyelitis, with special references to the stage of invasion by

Sanger Brown; Syphilitic Necrosis of the Frontal Bone by Ohmann-Dumesnil; Notes on Treatment of Hay-fever and Asthma, by Chas. H. Knight; Gonorrhoea and Conjunctivitis, by Wm. Geo. Sym, and Cirrhosis of the Liver by Richard Kretz.

READY IN NOVEMBER.

Differential Diagnosis and Treatment of Disease by Augustus Caille,

Fellow of the New York Academy of Medicine; Member and ex-President of the American Pediatric Society; Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital; Visiting Physician to the New York Post-Graduate and German Hospitals; Consulting Physician to Isabella Home and Hospital, etc. D. Appleton & Company, New York, Publishers.

COUNTY SOCIETIES IN AFFILIATION WITH THE STATE MEDICAL ASSOCIATION.

County.	President.	Address of President.	Secretary.	Address of Secretary.
Adair	James Hanks	Brashear	E. C. Grim	Kirksville.
Andrew	D. B. Bryant	Savannah	C. O. Jeffries	Savannah.
Atchison	G. W. Lott	Uesboro	A. McMichael	Rockport.
Audrain	G. A. Rothwell	Mexico	E. S. Cave	Mexico.
Barton	G. A. Allen	Lamar	L. McComb	Lamar.
Bates	A. E. Lyle	Butler	E. N. Chastain	Rich Hill.
Benton	G. S. Greeson	Lincoln	S. O. Davis	Warsaw.
Boone	J. E. Thornton	Columbia	W. A. Norris	Columbia.
Buchanan	P. I. Leonard	St. Joseph	Chas W Fasset	St. Joseph.
Butler	W. A. Kendall	Poplar Bluff	J. J. Norwine	Poplar Bluff.
Caldwell	R. K. Dodge	Palo	Tinsley Brown	Hamilton.
Callaway	J. F. Harrison	Fulton	Martin Yates	Fulton.
Camden	G. M. Moore	Linn Creek	G. T. Myers	Macks Creek.
Cape Girardeau	H. L. Cunningham	Cape Girardeau	J. K. Porterfield, Jr	Cape Girardeau.
Carroll	W. C. Baird	Bogard	R. F. Cook	Carrollton.
Carter-Shannon	F. Hyde	Eminence	A. C. Chilton	Van Buren.
Cass	R. D. Ramey	Garden City	J. S. Triplett	Harrisonville.
Chariton	H. C. Brunson	Brinswick	C. A. Jennings	Liberty.
Clark	E. W. Harlis	Winchester	C. C. Bridges	Kahoka.
Clay	L. J. Jones	Linden	F. H. Matthews	Liberty.
Clinton	John Sturgis	Perrin	E. A. Colley	Plattsburg.
Cole	J. P. North	Jefferson City	G. G. Eitmueller	Jefferson City.
Cooper	P. L. Hurt	Boonville	J. R. Lionberger	Boonville.
Crawford	W. A. Metcalf	Steelville	A. H. Horn	Steelville.
Davies	J. D. Dunham	Pattonsburg	M. A. Smith	Gallatin.
Dunklin	N. F. Kelley	Kennett	G. L. Johnson	Kennett.
Franklin	H. A. Booth	Pacific	A. C. Brown	Moselle.
Gasconade-Maries-Osage	J. J. Ferrell	Owensville	J. W. Nieweg	Lois.
Greene	W. P. Patterson	Springfield	Robt M. Cowan	Springfield.
Grundy	E. Sutton	Tipton	W. H. Winingham	Tipton.
Harrison	A. H. Vandvert	Bethany	W. H. Wiley	Ridgeway.
Henry	W. M. Shankland	Clinton	F. M. Douglas	Clinton.
Holt	C. L. Evans	Oregon	J. F. Chandler	Forest City.
Howard	A. W. Moore	Fayette	C. W. Watts	Fayette.
Howell	J. W. Bingham	Pottersville	H. C. Shuttee	West Plains.
Iron	R. W. Gay	Ironton	Ira A. Marshall	Ironton.
Jackson	Robt T. Sloan	Kansas City	Max Goldman	Kansas City.
Jasper	A. B. Freeman	Joplin	J. T. Stamey	Joplin.
Jefferson	W. H. Farrar	DeSoto	H. Will Elder	DeSoto.
Johnson	M. P. Shy	Knobnoster	E. H. Gilbert	Warrensburg.
Knox	L. S. Brown	Edina	Henry J. Jurgen	Edina.
Laclede	J. M. Billings	Lebanon	J. A. McComb	Lebanon.
Lafayette	F. S. Fulkerson	Lexington	C. T. Ryland	Lexington.
Lincoln	R. McKay	Troy	Wm. P. Smith	Troy.
Linn	K. V. Stanley	Brookfield	D. F. Howard	Brookfield.
Livingston	David Gordon	Chillicothe	J. F. Cherrington	Chillicothe.
McDonald	E. F. Doty	Anderson	M. L. Sellers	Anderson.
Macon	W. H. Miller	Macon	C. W. Reagan	Macon.
Madison	G. W. Greenwood	Fredericktown	C. U. Davis	Fredericktown.
Marion	R. H. Goodier	Hannibal	F. Janet Reid	Hannibal.
Mercer	H. P. Chesmore	Princeton	C. R. Buren	Princeton.
Miller	S. P. Hickman	Ulman	G. D. Walker	Eldon.
Mississippi	A. J. Martin	East Prairie	W. P. Howle	Charleston.
Moniteau	J. B. Stewart	Clarksburg	W. R. Patterson	Tipton.
Monroe	S. M. Brown	Monroe City	M. C. McMurtry	Paris.
Montgomery	J. L. Jones	Jonesburg	W. M. Wheeler	High Hill.
Morgan	W. L. Hatler	Barnett	J. T. Beale	Versailles.
Newton	J. W. Lamson	Neosho	Horace Bowers	Neosho.
Nodaway	F. R. Anthony	Maryville	L. E. Dean	Maryville.
Pemiscot	D. B. Crowe	Caruthersville	J. G. Luten	Caruthersville.
Perry	T. M. Hudson	Perryville	F. M. Vessels	Perryville.
Pettis	W. C. Overstreet	Sedalla	W. J. Ferguson	Sedalia.
Phelps	W. H. Breuer	St James	S. L. Baysinger	Rolla.
Pike	M. O. Biggs	Bowling Green	T. Guy Hetherlin	Louisiana.
Platte	R. P. Davis	Woodruff	G. C. Coffey	Platte City.
Pulaski	W. L. Ragan	Richland	G. W. Orrick	Crocker.
Putnam	C. H. Carryer	Hartford	T. A. Townsend	Unionville.
Ralls	W. S. Harwood	Rensselaer	T. J. Downing	New London.
Randolph	G. O. Suppalde	Moberly	W. M. Dickerson	Fenick.
Ray	Chas B. Shotwell	Richmond	L. D. Greene	Richmond.
Reynolds	J. M. Lowery	Centerville	T. W. Chilton	Corrison.
Saline	D. C. Gore	Marshall	D. F. Bell	Marshall.
St. Charles	J. R. Mudd	St. Charles	B. K. Stumberg	St. Charles.
St. Clair	W. Cline	Appleton City	E. D. Miles	Oseola.
Ste. Genevieve	M. Andre	St. Genevieve	F. E. Hinch	St. Genevieve.
St. Louis	F. L. Henderson	Century Bldg.	T. A. Hopkins	Century Building.
St. Louis Co.	H. G. Wyer	Kirkwood	H. T. Randle	Clayton.
Schuyler	J. T. Jones	Queen City	H. E. Gerwig	Downing.
Scotland	W. E. Alexander	Memphis	O. F. File	Memphis.
Shelby	H. C. Vaughn	Shelbina	A. M. Wood	Lentner.
Stoddard	D. R. Corbin	Bloomfield	Jno. Ashley	Bloomfield.
Sullivan	J. C. Kessenger	Milan	J. S. Montgomery	Milan.
Vernon	H. C. Jarvis	Schell City	T. B. Todd	Richards.
Warren	W. J. Alexander	Marthasville	E. A. Flusmeyer	Wright City.
Washington	J. A. Eaton	Belgrade	W. S. Smith	Belgrade.
Wayne	J. P. Sebastian	Patterson	R. J. Owens	Mill Spring.
Worth	O. H. P. Mills	Grant City	J. K. Phipps	Grant City.

MEETINGS OF COUNTY MEDICAL SOCIETIES.

County.	Date of Meeting.
Adair	Quarterly. Last Tuesday, Jan., April, July, Oct.
Andrew	Monthly. First Wednesday.
Atchison	Quarterly. January, April, July, October.
Audrain	Monthly. First Monday.
Barton	Quarterly. First Thursday, May, Aug., Nov., Feb.
Bates	Quarterly. Last Thursday in Feb., May, Aug. and Nov.
Boone	Monthly. First Monday.
Buchanan	Semi-Monthly. First and Third Saturday.
Butler	Weekly. Fridays.
Caldwell	Quarterly. July, October, January, April.
Callaway	Monthly. Second Thursday.
Camden	Quarterly. Second Monday, April, July, Oct. and Jan.
Cape Girardeau	Monthly. Second Wednesday.
Carroll	Monthly. Second Tuesday.
Carter-Shannon	Quarterly. February, May, August, and November.
Cass	Quarterly. First Thursday of March, June, Sept. and Dec.
Chariton	Monthly. Last Thursday.
Clark	Bi-Monthly. First Mondays, Feb., April, June, Aug., Oct., Dec.
Clay	Monthly. Last Monday.
Clinton	Monthly. First Tuesday.
Cole	Quarterly. Second Thursday of Jan., April, July, Oct.
Cooper	Monthly. First Tuesday.
Crawford	Quarterly. First Tuesday, April, July, October, January.
Davless	Quarterly. January, April, July, October.
Dunklin	Monthly. Second Tuesday.
Franklin	Monthly. First Tuesday.
Gasconade-Maries-Osage	Semi-Annual. Fourth Thursday, April and October.
Greene	Weekly. Saturday.
Grundy	Quarterly. July, October, January, April.
Harrison	Quarterly. Second Wednesday, Dec., March, June, Sept.
Henry	Quarterly. First Thursday, January, April, July, October.
Holt	Monthly. Third Tuesday.
Howard	Bi-Monthly. First Thursday of Dec., Feb., April, June, Aug., Oct.
Howell	Monthly. First Saturday.
Iron	Monthly. First Saturday.
Jackson	Semi-Monthly. Second and Fourth Thursdays.
Jasper	Semi-Monthly. First and Third Mondays.
Jefferson	Monthly. Fourth Tuesday.
Johnson	Quarterly. June, September, December, March.
Knox	Monthly. First Monday.
Laclede	Quarterly. Second Monday, Jan., April, July, Oct.
Lafayette	Monthly. Second Tuesday, Jan., Mch., May, July, Sept., Nov.
Lincoln	Quarterly. May, August, November, February.
Linn	Quarterly. October, January, April, July.
Livingston	Monthly. Third Wednesday.
McDonald	Quarterly. Second Wednesday, Jan., April, July, Oct.
Macon	Monthly. Second Tuesday, 10 a. m.
Madison	Semi-Monthly. First and Third Monday.
Marion	Monthly. First Friday.
Mercer	Monthly. Second Thursday.
Miller	Quarterly. First Thursday, March, June, Sept. Dec.
Mississippi	Monthly. First Monday.
Moniteau	Quarterly. March, June, September, December.
Monroe	Quarterly. First Tuesday of April, July, October, January.
Montgomery	Monthly.
Morgan	Quarterly. First Wednesday of March, June, Sept., Dec.
Newton	Monthly. Second Tuesday.
Nodaway	Monthly. Second Tuesday.
Pemiscot	Quarterly. First Tuesday, January, April, July, November.
Perry	Monthly. First Wednesday.
Pettis	Semi-Monthly. First and Third Monday.
Phelps	Quarterly. March, June, September, December.
Pike	Monthly.
Platte	Monthly. First Wednesday.
Pulaski	Quarterly. November, February, May, August.
Putnam	Monthly. First Wednesday.
Ralls	Quarterly. January, April, July and October.
Randolph	Monthly. Second Tuesday.
Ray	Monthly. Third Wednesday.
Reynolds	Quarterly. January, March, June, October.
Saline	Monthly. Second Tuesday.
St. Charles	Monthly.
St. Clair	Quarterly. Second Tuesday, March, June, Sept., Dec.
Ste. Genevieve	Monthly. Second Wednesday.
St. Louis	Weekly. Saturdays.
St. Louis County	Monthly. Second Wednesday.
Schuyler	Semi-Annually. July and December.
Scotland	Monthly. Second Tuesday.
Shelby	Quarterly. June, September, December, March.
Stoddard	Quarterly. First Wednesday, March, June, Sept., Dec.
Sullivan	Monthly.
Vernon	Quarterly. First Tuesday, March, June, Sept. and Dec.
Warren	Monthly.
Washington	Monthly. First Saturday.
Wayne	Monthly.
Worth	Monthly. Second Wednesday.

AMERICAN MEDICAL ASSOCIATION.

Next Annual Meeting at Boston, Mass.

President-Elect: WM. J. MAYO, Rochester, Minn.

President: LOUIS S. McMURTRY, Louisville, Ky.

First Vice-President: WALTER WYMAN, Washington, D. C.

Secretary and Editor: GEORGE H. SIMMONS, 103 Dearborn Ave., Chicago.

Treasurer: FRANK BILLINGS, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION.

Next Annual Meeting, Jefferson City, May, 1906.

President: D. C. GORE, Marshall, Mo.

Vice-Presidents:

C. D. AVERY, Troy; J. P. BURKE, California; F. A. GLASGOW, St. Louis; T. F.

LOCKWOOD, Butler; E. LOWREY, Excelsior Springs.

Secretary: C. M. NICHOLSON, St. Louis.

Assistant Secretary: E. J. GOODWIN, St. Louis.

Treasurer: J. FRANKLIN WELCH, Salisbury.

COMMITTEES.

Committee on Scientific Work.

C. M. Nicholson, Chairman; E. L. Chambliss, A. R. Kieffer.

Publication Committee.

C. M. Nicholson, Chairman; F. J. Lutz, B. M. Hypes; W. B. Dorsett.

Committee on Public Policy and Legislation.

F. J. Lutz, Chairman; W. S. Allee, H. E. Pearse.

COUNCILLOR DISTRICTS AND LIST OF COUNTIES IN EACH DISTRICT.*

First District.—F. B. Hiller, Kahoka. Counties: Clark, Scotland, Schuyler, Adair, Knox, Lewis.

Second District.—J. D. Brummall, Salisbury. Counties: Linn, Carroll, Chariton, Livingston, Grundy, Sullivan, Mercer, Putnam.

Third District.—E. H. Miller, Liberty. Counties: Clay, Ray, Platte, Clinton, Caldwell, DeKalb, Gentry, Harrison, Worth, Daviess.

Fourth District.—C. H. Wallace, St. Joseph. Counties: Buchanan, Holt, Atchison, Nodaway, Andrew.

Fifth District.—L. W. Dallas, Hunnewell. Counties: Macon, Shelby, Marion, Randolph, Monroe, Ralls.

Sixth District.—Woodson Moss, Columbia. Counties: Audrain, Callaway, Montgomery, Warren, Pike, Boone, Howard, St. Charles.

Seventh District.—W. B. Dorsett, St. Louis. Counties: St. Louis, Lincoln.

Eighth District.—F. J. Lutz, St. Louis. Counties: Franklin.

Ninth District.—B. M. Hypes, St. Louis. Counties: Jefferson, Washington, St. Francois, Reynolds, Iron, Perry, St. Genevieve.

Tenth District.—J. J. Norwine, Poplar Bluff. Counties: Mississippi, New Madrid, Wayne, Stoddard, Dunklin, Butler, Ripley, Carter, Pemiscot.

Eleventh District.—W. D. Porterfield, Jr., Cape Girardeau. Counties: Bollinger, Scott, Madison, Cape Girardeau.

Twelfth District.—W. S. Allee, Olean. Counties: Miller, Morgan, Maries, Cole, Moniteau, Camden, Osage, Gasconade.

Thirteenth District.—R. D. Haire, Clinton. Counties: Pettis, Lafayette, Henry, St. Clair, Benton, Saline, Hickory, Cooper.

Fourteenth District.—M. P. Overholser, Harrisonville. Counties: Jackson, Cass, Bates, Johnson.

Fifteenth District.—A. R. Snyder, Joplin. Counties: McDonald, Newton, Jasper, Dade, Barton, Cedar, Vernon.

Sixteenth District.—R. L. Johnson, Rolla. Counties: Dallas, Crawford, Phelps, Pulaski, Laclede, Dent.

Seventeenth District.—J. E. Tefft, Springfield. Counties: Greene, Christian, Stone, Barry, Lawrence, Webster, Polk, Taney.

Eighteenth District.—H. C. Shuttee, West Plains. Counties: Ozark, Oregon, Howell, Texas, Wright, Shannon, Douglas.

*Counties in black type are unorganized.